



West Winch Housing Access Road

Environmental Statement Chapter 8: Biodiversity Annex 8.12 Bat Static Detector Survey Report

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1 Introduction

1.1 Methodology

Guidance

- 1.1.1 The methodology applied for all survey techniques and bat call analysis was completed with reference to best practice guidance (available at the time of survey) and best practice guidelines (Collins, 2016) (Russ J. , 2012).

Summary

- 1.1.2 Automated detector surveys were designed to assess the species assemblages, distribution of activity and key areas of bat foraging and commuting activity at locations within the Scheme Boundary.
- 1.1.3 These surveys were undertaken for the Proposed Scheme for areas within the (previous) Scheme Boundary (all maps have been updated with the latest Scheme Boundary (October 2023)).

Automated Detector Surveys

Survey Areas

- 1.1.4 All land that fell within the previous Scheme Boundary is hereafter referred to as the Survey Area, where detectors were set out at 11 location points across this Survey Area.
- 1.1.5 Automated detector surveys were carried out across the Proposed Scheme using static bat detectors (Song Meter 4 (SM4) detectors). The microphones used were multi-directional, however and were placed at a height between 1.5 – 2m above the ground. Detectors were placed within habitat features (such as woodland edge and within areas of woodland, hedgerows and ditches) that were considered suitable for commuting and foraging bats where these features were intersected or impacted by the Proposed Scheme.
- 1.1.6 Automated detector locations were surveyed every month between April to October inclusive, for a minimum of five nights in each month. In some instances, five nights of deployment, or deployment in certain months, was



not possible, as explained in the Notes and Limitations, below. Due to the variation in the number of survey nights, results are presented as the average Passes Per Night (PPN) so that data is comparable.

- 1.1.7 The automated detectors were set to commence recording at least 30 minutes before sunset and cease recording 30 minutes after sunrise.
- 1.1.8 The locations of the detectors within the Scheme Boundary/Survey Area are described in Table 1-1 from north to south, and are presented in Appendix A. A description of the Proposed Scheme layout at these locations is also included for reference.

Table 1-1 – Static detector locations

Detector Location	Location Description	Proposed Scheme Description at Location
Point 5	Located to the northeast of the A47 where it meets the Hardwick Interchange. The detector is positioned at the intersection between the woodland and scrub along the northern boundary of the A47, a ditch that extends to the north and an underpass that extends south under the A47.	The road will be widened at this location, with the existing roundabout removed and two new filter lanes constructed.
Point 4	Located to the south of the A47 where it meets the Hardwick Interchange. The detector is located along a track that is bounded by two areas of woodland. The track connects to the southern extent of the A47 underpass. To the south is a large pond encircled by scrub and woodland.	The new filter lane towards the Hardwick Interchange and extension to the A47 underpass will be constructed within this location.
Point 11	Located to the southeast of the Hardwick Interchange. The detector is located within a mosaic of grassland, scrub, woodland, areas of wet grassland and ponds.	The new filter lane towards the Hardwick Interchange will be constructed in proximity to this location. Likely requiring all habitat to be removed within the Scheme Boundary to facilitate construction of the slip road.
Point 6	Located along a large hedgerow that runs parallel to the A47, approximately 180m southeast of Hill Cottages. To the north the hedgerow is bounded by arable land.	The A47 will be widened to a dual carriage and four lanes along this section of the A47 requiring the removal of the hedgerow.
Point 1	Located within an area of woodland and grassland habitat to the south of the A47. This area is part of a large expanse (approximately 32ha) of grassland, woodland, scrub and ponds. To the east is Sheep's Course Wood County Wildlife Site (CWS) which is comprised of mature oak woodland.	The new housing access road will connect to the existing A47 at this location via a new roundabout layout.
Point 2	Located approximately 200m southwest of Point 1, within an area of grassland and scattered scrub. It is located within the same expanse of grassland, woodland, scrub and ponds.	A new roundabout will be constructed at this location with access into the new residential development to the west.
Point 3	Located along the eastern boundary of Sheep's Course Wood CWS along the woodland edge. Further east is a large arable field.	A temporary haul road for construction activities, including a gas main diversion are proposed to the east of the woodland, within the arable field.
Point 7	Located to the north of Rectory Lane along the hedgerow that runs parallel to the road. The road is also bounded to the south by another hedgerow. To the north and south of both hedgerows are arable fields.	The Proposed Scheme will intersect Rectory Lane at this location. A new vehicle overpass will be constructed over the new road so that vehicle traffic can pass along Rectory Lane.
Point 9	Located along arable field boundaries at a T-junction between a ditch that runs east to west and a line of mature oak and ash trees that run north to south. To the southeast is an area of woodland, grazing pasture and scattered mature oak trees.	The new road will intersect the ditch and line of trees at this location, with a new junction to the residential development to the west and a new drainage pond created.
Point 8	Located to the south of Chequers Lane within a hedgerow that runs parallel to the road. To the north and south are arable fields.	The new road will intersect Chequers Lane at this location and access for vehicle along the lane will be stopped. A new pedestrian overbridge will be constructed over the new road.

Detector Location	Location Description	Proposed Scheme Description at Location
Point 10	Located within a drainage ditch that divides multiple arable fields. The ditch is occasionally wet, has a buffer of approximately 5m of grassland from the top of the bank and is dominated by reeds, with occasional patches of dense scrub.	The new road will cross the ditch at this location, with a new roundabout connecting to the A10 constructed. Drainage ponds will also be created to the south.



Data Analysis

- 1.1.9 The recordings of bat echolocation calls collected during the surveys were analysed using Kaleidoscope Pro. The analysis enables confirmation of species or species group based on call parameters, and the relative activity of different species of bats by counting the minimum number of bats recorded within discrete sound files. Once triggered by ultrasound, the SM2 and EM3 detectors record sound files with a duration of 15 seconds, which may contain a number of individual bat calls (or passes), or discrete groups of ultrasound 'pulses'. The assessment of relative bat activity between species is based on the relative abundance of recorded calls of each species within each survey period (i.e., each walked transect survey or period of static monitoring per month) and across the combined study period.
- 1.1.10 It should be recognised that a series of separate sound files may represent a series of different bats commuting within the range of an automated detector, or a smaller number of bats repeatedly triggering the detector (e.g., bats making repeated foraging passes within the range of a detector).
- 1.1.11 Where possible, bat calls were identified to species level. However, species of the genus *Myotis* were only identified to genus level as their calls are similar in structure and have overlapping call parameters, making species identification problematic (Russ, 2013).
- 1.1.12 Identification of the genus *Nyctalus* (noctule *Nyctalus noctula* and Leisler's bat *Nyctalus leisleri*) was based on the following parameters:
- Noctule *Nyctalus noctula* <20 kHz;
 - *Nyctalus* spp. (Noctule or Leisler's bat *Nyctalus leisleri* bat) >20 kHz.
- 1.1.13 The following parameters were used to manually identify *Pipistrellus* species:
- Common Pipistrelle *Pipistrellus pipistrellus* ≥42 and ≤50 kHz;
 - Soprano Pipistrelle *Pipistrellus pygmaeus* >50 kHz;
 - Nathusius' Pipistrelle *Pipistrellus nathusii* ≤38 kHz.



1.1.14 In addition to these parameters, other distinguishing features of bat calls were used to identify species, including the call structure and social calls.

1.1.15 The process for bat call analysis is summarised below:

- Bat calls were run through Kaleidoscope-Pro using the 'Auto-ID' function, which classifies the bat calls to species/species groups based on call parameters.
- All bat calls were then manually checked by ecologists competent in analysing bat calls and experienced in the use of Kaleidoscope software. Where the Auto-ID label was incorrect, the correct species label was manually attributed to the call.
- Sound files that were identified by the software as 'No-ID' were also manually checked and labelled with the correct species or labelled as noise.
- Each file may contain calls of multiple bat species; however, the Auto-ID function is only capable of labelling one species. This was corrected during manual checks by duplicating the file and labelling each species separately.
- To allow standardisation and comparison of automated detector survey results the number of bat passes recorded per night (PPN) was used, as explained below (Collins, Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn), 2016).

$$\text{Batt ppn} = \frac{\text{Total bat passes recorded at a SM4 location}}{\text{Number of nights SM4 Surveyed}}$$

1.1.16 All of the sound files that were labelled as 'Noise' by the Auto-ID classifier within the static data collected between April and July were manually checked. This was necessary to check for quiet species (such as *Barbastelle barbastellus*) whose calls are typically missed by the Auto ID classifier. For data collected between August and October, the process for



analysing noise files was adapted due to the vast number of noise files caused by invertebrates that were recorded by the detectors in those months. Ten percent of the noise files were manually checked and if more than five percent of the noise files analysed contained bat calls, all of the remaining noise files for that location would then be checked.

1.1.17 All of the noise files were checked as part of the manual ID process. Noise files consist of any sound which has triggered the detector but which has not been recognised as a bat call, such as crickets or rustling vegetation etc. Occasional bat calls may be present with these, although these are usually short sections of calls from bats which are likely to have been further away from the detector and therefore less relevant to the habitat feature under survey. Although slightly higher numbers of calls of all species may be recorded if the noise files were analysed, this would not alter the results in terms of habitat features with highest/lowest levels of bat activity.

1.1.18 The analysed sound files were subject to a QA process. Ten percent of sound files which were identified as Common or Soprano Pipistrelle and 20% (if more than 10 calls) or 100% (if less than 10 calls) of sound files identified as all other species were randomly selected for quality assurance checks. This process was completed by a suitably competent analyst experienced in using Kaleidoscope software.

Dates of Survey and Personnel

1.1.19 The dates of each survey type and the credentials of the personnel completing the surveys are provided in Table 1-2, below.



Table 1-2 – Survey dates and personnel

Survey Type	Dates of survey	Personnel
Bat Activity Surveys	Bat Activity Surveys	Bat Activity Surveys
Automated Detector Surveys	Deployment of automated detectors was undertaken between April – October 2021. Further information on the months each location point had a detector deployed can be found in Table 97.	Detector deployment was undertaken by ecologists experienced in automated detector deployment and collection.

Notes and Limitations

- 1.1.20 Every effort has been made to provide a comprehensive set of survey data; however, the following assumptions and limitations apply to the above referenced surveys.
- 1.1.21 In three instances, detectors were not deployed at Point 11 in April and May, and Point 10 in August.
- 1.1.22 The missing data from Point 11 in April is not expected to place limitation on the interpretation of the results as the month was subject to heavy rainfall and bat activity was low throughout the Survey Area. The missing data within May is not expected to place limitation on the interpretation of the results given that a full dataset could be collected across the remaining survey period.
- 1.1.23 Point 10 was missed within the month of August, however, data was collected for all other months throughout the Scheme Boundary. The missing data is not expected to impact the data interpretation due to Point 10 being collected for all other months.
- 1.1.24 The SD card within detector location Point 9 in August become full during the deployment and on the fifth night, only half of the night's the data was recorded. This resulted in several hours from the last day being unrecorded. This is not considered to be a significant limitation given the number of call



registrations that was recorded throughout the deployment. A large proportion of the call registrations were noise from grasshoppers and other invertebrates.

1.1.25 Within the month of September, Point 1 and Point 8 did not record the full data set. Point 1 recorded data up until 11:15pm on the fifth night due to the detector SD card becoming full. Point 8 recorded four nights due to the detector SD card becoming full resulting in the fifth day recording no data. This is not considered to be a significant limitation given the number of call registrations that was recorded throughout the deployment. A large proportion of the call registrations were noise from grasshoppers and other invertebrates.

1.2 Results

Automated Detector Survey

1.2.1 A total of nine bat species were recorded within the Survey Area during the automated detector surveys. These species were as follows:

- Barbastelle;
- Common Pipistrelle;
- Soprano Pipistrelle;
- Nathusius' Pipistrelle;
- *Myotis* species;
- Noctule;
- Unidentified *Nyctalus* species (Noctule or Leisler's bat);
- Brown Long-eared bat *Plecotus auritus* ; and
- Serotine *Eptesicus serotinus*.

1.2.2 The bat data recorded during the static monitoring periods each month are summarised in Table 1-3 overleaf.



Species Evaluation

Barbastelle Bat

- 1.2.3 No Barbastelle Bat roosts were recorded throughout the surveys for the Proposed Scheme (see Bat Roost Report), although early registrations on static detectors indicate that they may roost nearby. Call registrations for Barbastelle Bat were recorded at static detector Point 2 and Point 3 that were located west and east of Sheep's Course Wood, respectively. Low numbers of registrations were recorded in July (1-5 PPN within on hour of sunset) and higher numbers were recorded in October (3-16 PPN within one hour of sunset) high levels of bat activity within one hour of sunset can indicate the potential for maternity colonies of Barbastelle Bats, however given that these peaks in activity were not consistently recorded in the maternity period, it is considered unlikely that a high conservation status roost is located near to the Scheme Boundary.
- 1.2.4 Barbastelle were recorded at all static detector locations across the Scheme Boundary, with the highest levels of activity recorded at the tree line north of North Runcton Common (Point 9), Sheep's Course Wood (Point 3) and Chequers Lane (Point 8). Barbastelle activity was recorded at the detector location to the west of Sheep's Course Wood (Point 2), although call registrations were low, with an average of 1.47 PPN. All other detector locations recorded low levels of activity, with average PPN less than 0.3.

Pipistrelle Species

- 1.2.5 Pipistrelle species were the most frequently recorded species across the static detector survey area, accounting for over 90% of all bat call registrations recorded.
- 1.2.6 Common Pipistrelle were the most frequently recorded species throughout the static bat detector, accounting for over 60% of call registrations across the static detector survey area. A total of 47,447 call registration were detector for the species.



1.2.7 Soprano Pipistrelle were the second most frequently recorded bat species by static detectors, accounting for almost 30% of all call registrations detected.

1.2.8 Nathusius' Pipistrelle were occasionally recorded by static detectors where low levels of activity were identified throughout the Scheme. Nathusius' Pipistrelle accounted for less than 0.002% of all call registrations.

Myotis Species

1.2.9 A total of 942 Myotis bat call registrations were recorded throughout the Scheme during static detector monitoring. They were recorded at all static detector locations, with the highest levels of activity recorded at Chequers Lane (Point 8), where a total of 304 call registrations were detected. Higher levels of activity, compared with the rest of the survey locations were recorded at the locations north of the A47 underpass (Point 5), the line of trees north of North Runcton Common (Point 9) and a wet ditch in the south of the Scheme (Point 10) where the peaks in activity were recorded in September.

Brown Long-eared Bat

1.2.10 Brown Long-eared bats were frequently recorded throughout the Scheme during static detector surveys. The species made up only a small proportion of the bat registration recorded by static bat detectors.

Serotine and Nyctalus Species

1.2.11 Noctule were regularly detected throughout the Scheme during bat static surveys. Leisler's bat were only confirmed at Point 1, however Nyctalus species (where call registrations were unable to be distinguished) were recorded throughout the survey area. The highest levels of Noctule and Nyctalus species were recorded within the mosaic of habitats to the west of Sheep's Course Wood at detector locations Point 4 and Point 5.

Table 1-3 – Average PPN for all bat species throughout the survey months across the survey area

Species	Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11
Survey nights	33	38	38	38	38	38	38	37	38	33	29
Barbastelle	0.27	1.47	5.42	0.11	0.05	0.21	0.29	3.89	15.45	0.03	0.21
Common Pipistrelle	152.52	39.26	180.76	363.11	257.55	29.82	28.21	70.32	120.34	24.09	9.90
Soprano Pipistrelle	13.85	15.61	107.16	163.45	100.92	15.50	31.89	53.68	86.37	17.48	9.21
Nathusius' Pipistrelle	0.91	0.16	0.24	0.61	0.71	0.26	0.03	0.30	0.24	0.30	0.17
Noctule	7.18	5.68	8.89	32.29	38.32	3.53	4.84	6.03	18.00	3.24	13.72
Leisler's bat	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nyctalus species	1.09	0.82	1.74	9.76	8.97	0.97	0.61	1.00	1.58	0.21	1.00
Myotis species	1.09	1.21	1.89	1.58	3.00	0.42	1.24	8.22	3.63	2.76	1.00
Serotine	0.03	0.97	0.29	0.11	1.13	0.87	0.03	0.19	0.32	0.09	0.14
Brown Long-eared bat	0.64	2.66	0.53	1.89	1.39	0.47	0.87	0.84	2.18	0.24	0.45
Nathusius' Pipistrelle/Common Pipistrelle	0.48	0.00	0.37	1.18	1.68	1.37	0.16	0.49	0.32	1.97	0.00
Total Bat Passes	5,877	2,578	11,677	21,815	15,722	2,030	2,590	5,363	9,440	1,664	1,038



Survey results – within group (area) comparison by species

Barbastelle

Location Point 1

1.2.12 A total of nine Barbastelle passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 0.27PPN.

1.2.13 Monthly activity levels are presented in Table 1-4. Barbastelle activity peaked in April with an average of 0.60PPN. June and July recorded similar results with an average of 0.40PPN while October recorded 0.33PPN. Within the Point 1 deployments, May, August, and September recorded no Barbastelle activity.

Table 1-4 – Barbastelle average PPN within Point 1 throughout all survey months

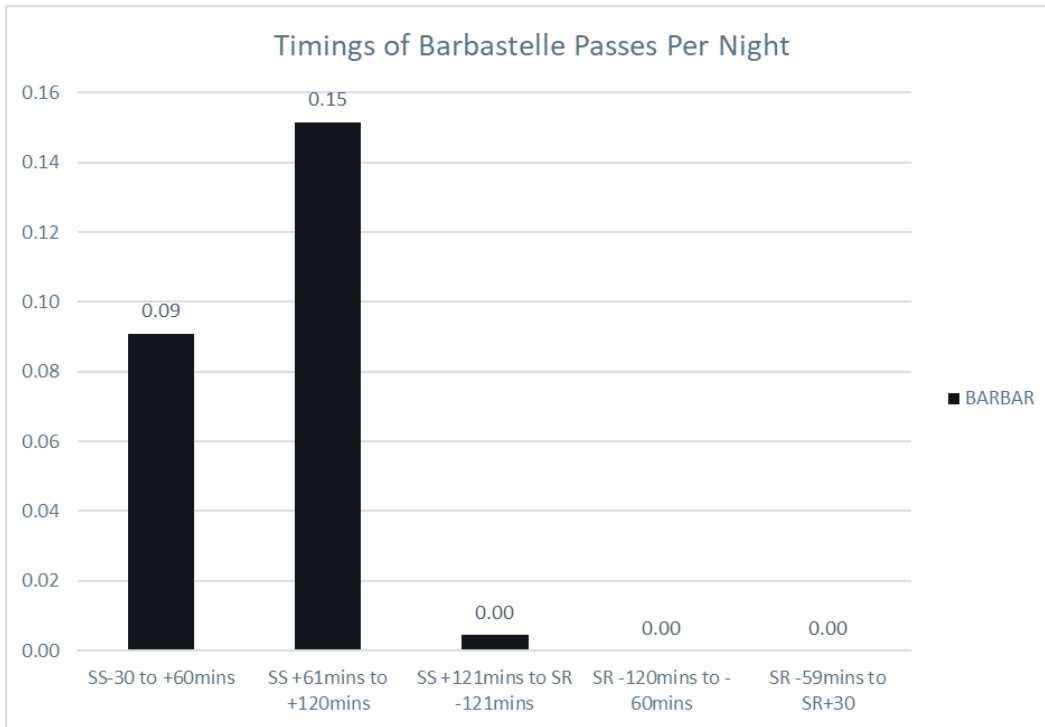
Month	April	May	June	July	August	September	October
Average PPN	0.60	0.00	0.40	0.40	0.00	0.00	0.33

1.2.14 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-1.

1.2.15 Activity peaked between 61 minutes to 120 minutes after sunset with an average of 0.15PPN while 30 minutes before sunset and up to 60 minutes after sunset recorded 0.09PPN. Low activity numbers (<0.01PPN) were recorded within 121 minutes before sunset and up to 121 minutes after sunset, no other data was recorded at any other time.



Figure 1-1 – Timings of Barbastelle passes per night within Location Point 1



Location Point 2

1.2.16 A total of 56 Barbastelle passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 1.47PPN.

1.2.17 Monthly activity levels are presented in Table 1-5. Barbastelle activity peaked in July with an average of 8.8PPN. September recorded 0.80PPN while June and October recorded similar averages with 0.60PPN and 0.66PPN respectively. August recorded the lowest average with 0.16PPN while April and May recorded no Barbastelle activity.

Table 1-5 – Barbastelle average PPN within Point 2 throughout all survey months

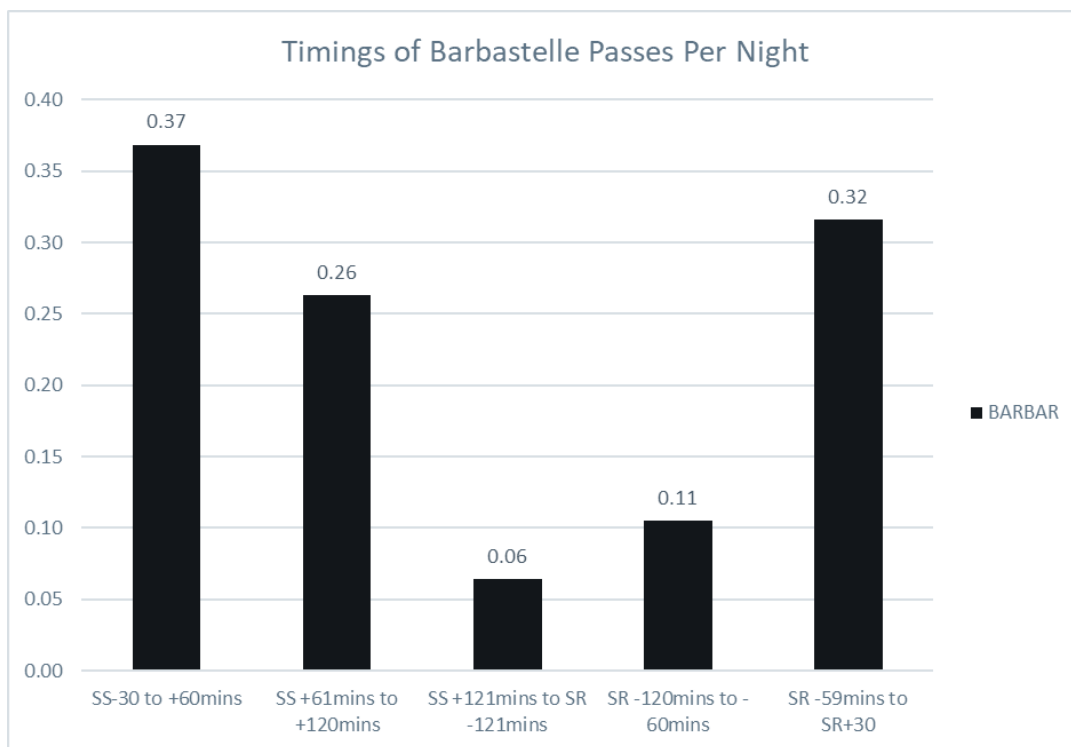
Month	April	May	June	July	August	October	September
Average PPN	0.00	0.00	0.60	8.8	0.16	0.80	0.66

1.2.18 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-2.



1.2.19 Activity peaked 30 minutes before sunset and up to 60 minutes after sunset recording 0.37PPN while 59 minutes before sunset to 30 minutes after sunset recorded 0.32PPN. An average of 0.26PPN was recorded at 61 minutes to 120 minutes after sunset with an average of 0.11PPN recorded at 120 minutes to 60 minutes before sunrise. The lowest average of Barbastelle activity was recorded 121 minutes after sunset to 121 minutes before sunrise with 0.06PPN.

Figure 1-2 – Timings of Barbastelle passes per night within Location Point 2



Location Point 3

1.2.20 A total of 206 Barbastelle passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 5.42PPN.

1.2.21 Monthly activity levels are presented in Table 1-6. Barbastelle activity recorded a noticeable peak in October with an average of 25.33PPN. August recorded 6.00PPN while July recorded 0.80PPN. September recorded an average of 0.80PPN, while April and June recorded similar results with an average of 0.20PPN. Within the Point 3 deployments, the month of May recorded no Barbastelle activity.



Figure 1-3 – Timings of Barbastelle passes per night within Location Point 3

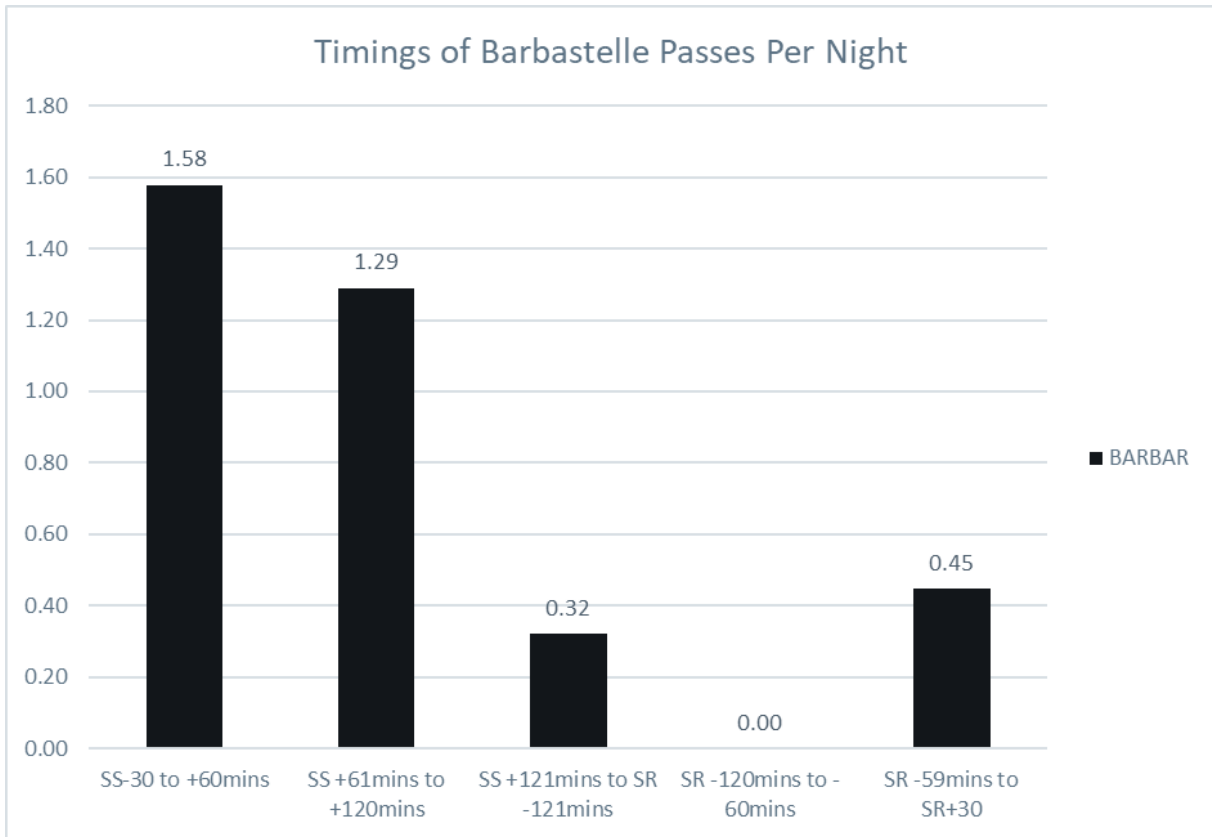


Table 1-6 – Barbastelle average PPN within Point 3 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.20	0.00	0.20	2.00	6.00	0.80	30.4

1.2.22 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-3.

1.2.23 Activity peaked 30 minutes before sunset and up to 60 minutes after sunset recording 1.58PPN while 61 minutes up to 120 minutes before sunset recorded an average of 1.29PPN. An average of 0.45PPN was recorded 59 minutes before sunrise to 30 minutes after sunrise while the lowest recorded average was 0.32PPN 61 minutes to 120 minutes after sunset. No Barbastelle activity was recorded 120 minutes after sunset to 121 minutes after sunrise.



Location Point 4

1.2.24 A total of four Barbastelle passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 0.10PPN.

1.2.25 Monthly activity levels are presented in Table 1-7. Barbastelle activity recorded a peaked in June with an average of 0.40PPN. September recorded 0.20PPN while August recorded 0.16PPN. Within the Point 4 deployments, April, May, July, and October recorded no Barbastelle activity.

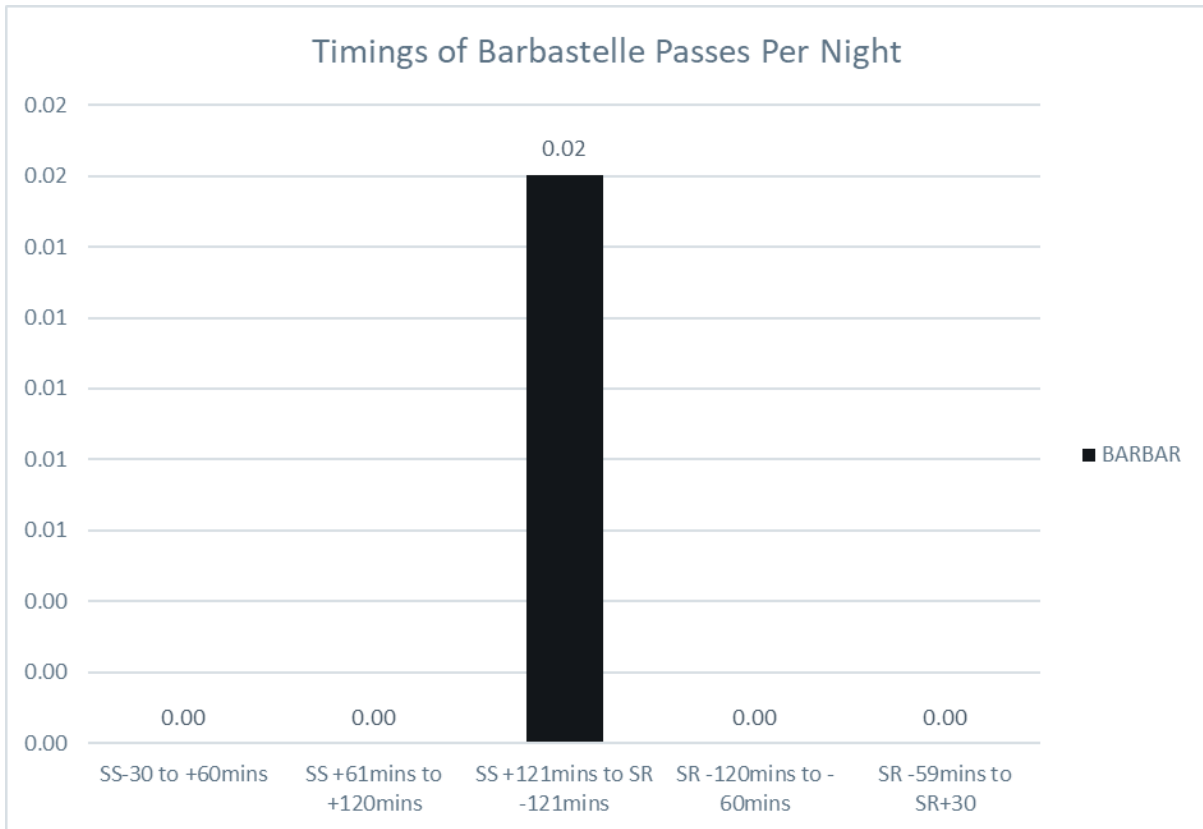
Table 1-7 – Barbastelle average PPN within Point 4 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.40	0.00	0.16	0.20	0.00

1.2.26 Barbastelle activity recorded an average of 0.02PPN 121 minutes before sunset and 121 minutes after sunrise presented in Figure 1-4. Barbastelle activity was not recorded at any other time.



Figure 1-4 – Timings of Barbastelle passes per night within Location Point 4



Location Point 5

1.2.27 A total of two Barbastelle passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 0.05PPN.

1.2.28 Monthly activity levels are presented in Table 1-8. Barbastelle activity recorded a peaked in September with an average of 0.20PPN. August recorded 0.16PPN while April, May, June, July, and October recorded no Barbastelle activity.



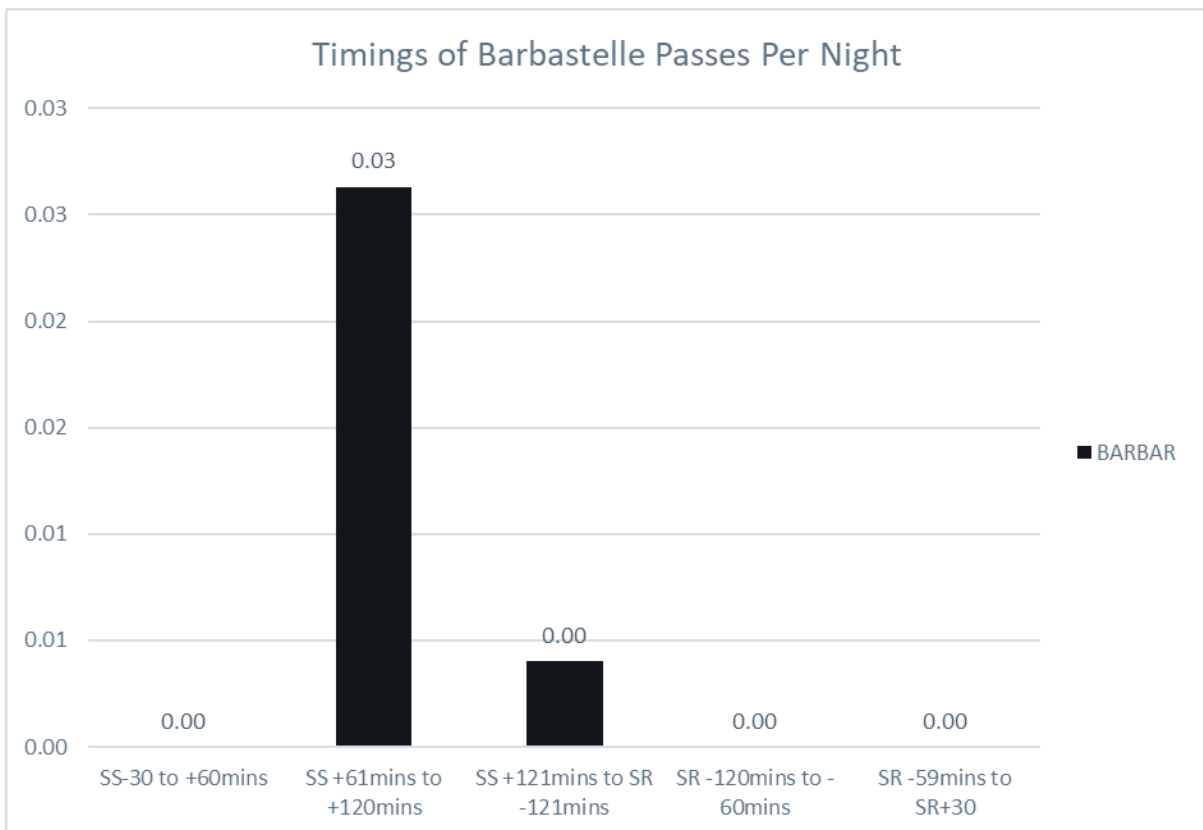
Table 1-8 – Timings of Barbastelle passes per night within Location Point 4

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.00	0.16	0.20	0.00

1.2.29 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-5.

1.2.30 Activity peaked 61 minutes before sunset and up to 120 minutes after sunset recording 0.03PPN. Low activity numbers (<0.01PPN) were recorded within 121 minutes before sunset and up to 121 minutes after sunrise, with no other data being recorded at any other time.

Figure 1-5 – Timings of Barbastelle passes per night within Location Point 4



Location Point 6

1.2.31 A total of eight Barbastelle passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 0.21PPN.



1.2.32 Monthly activity levels are presented in Table 1-9. Barbastelle activity recorded a peaked in October with an average of 0.83PPN. May recorded 0.40PPN while September recorded an average of 0.20PPN. April, June, July, and August recorded no Barbastelle activity.

Table 1-9 – Barbastelle average PPN within Point 6 throughout all survey months

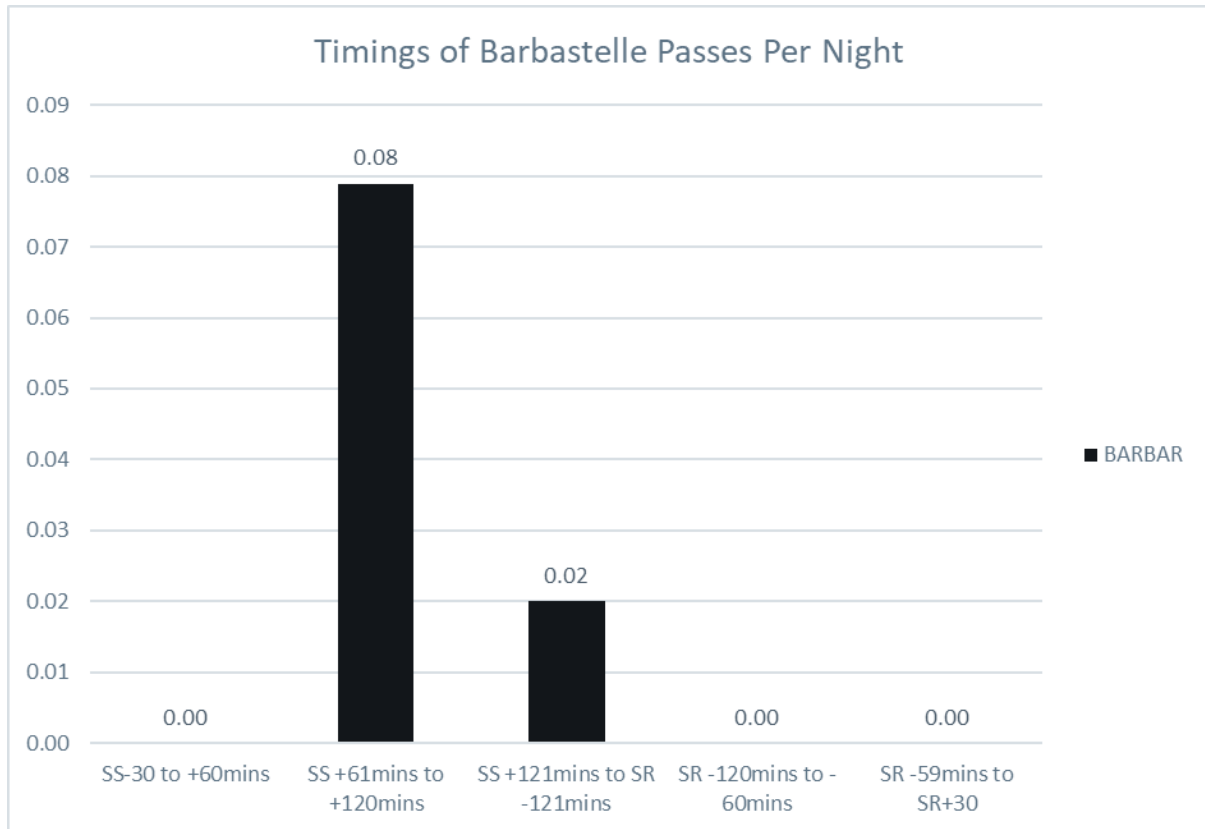
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.40	0.00	0.00	0.00	0.20	0.83

1.2.33 Barbastelle activity was recorded on the static detectors are varying times presented in Figure 1-6.

1.2.34 Activity peaked 61 minutes before sunset and up to 120 minutes after sunset recording 0.08PPN. 0.02PPN was recorded within 121 minutes before sunset and up to 121 minutes after sunrise, with no other data being recorded at any other time.



Figure 1-6 – Timings of Barbastelle passes per night within Location Point 6



Location Point 7

1.2.35 A total of 11 Barbastelle passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 0.29PPN.

1.2.36 Monthly activity levels are presented in Table 1-10.

1.2.37 Barbastelle activity recorded a peak in July with an average of 0.66PPN. August recorded 0.50PPN while September recorded 0.40PPN. The lowest recorded average of 0.33PPN was collected in October while April, May, and June recorded no Barbastelle activity.

Table 1-10 – Barbastelle average PPN within Point 7 throughout all survey months

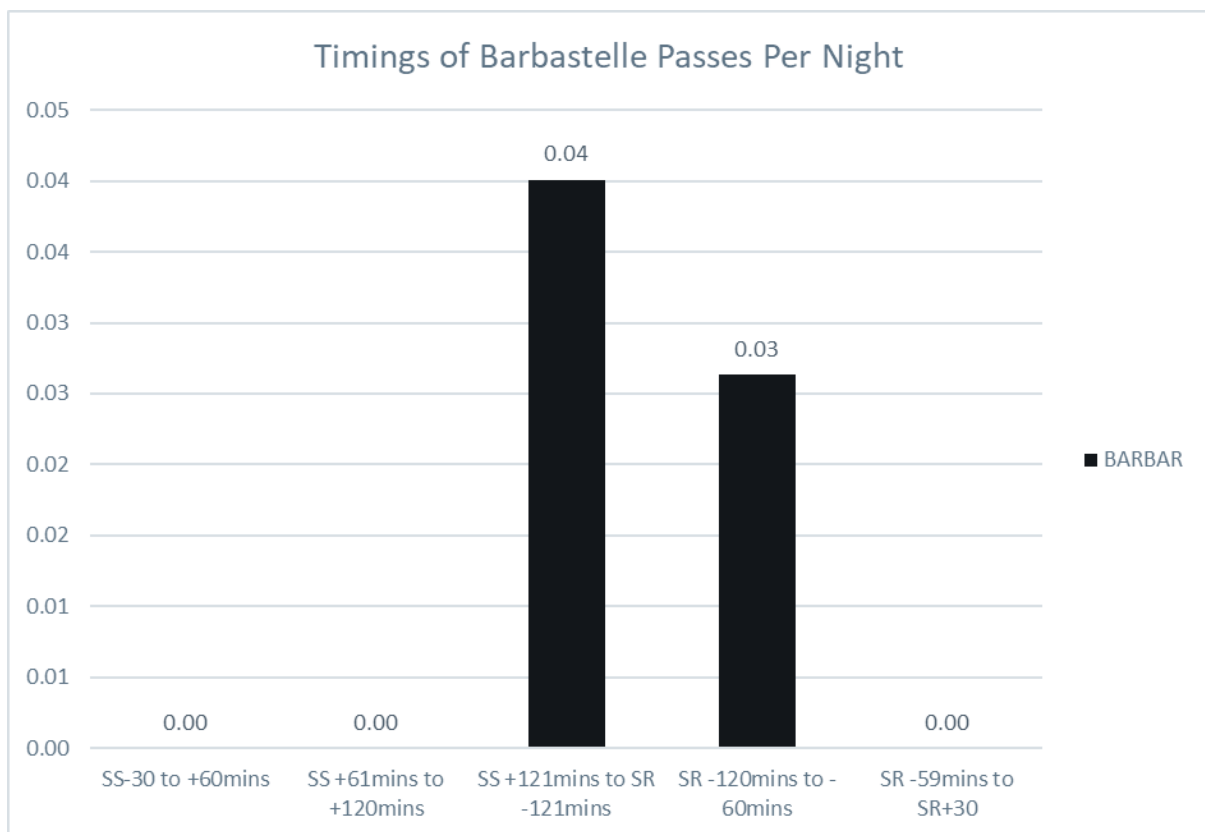
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.66	0.50	0.40	0.33



1.2.38 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-7.

1.2.39 Activity peaked 121 minutes before sunset and up to 121 minutes after sunrise with 0.04PPN. 0.03PPN was recorded 120 minutes after sunrise up to 60 minutes before sunrise, with no other data being recorded at any other time.

Figure 1-7 – Timings of Barbastelle passes per night within Location Point 7



Location Point 8

1.2.40 A total of 144 Barbastelle passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 3.89PPN.

1.2.41 Monthly activity levels are presented in Table 1-11.

1.2.42 Barbastelle activity recorded a noticeable peak in August with an average of 11.00PPN. September recorded 7.00PPN while July recorded 4.66PPN. June recorded 2.40PPN while October recorded 1.00PPN. Recognisably, the



month of May recorded the lowest activity with 0.80PPN, however, April recorded no Barbastelle activity.

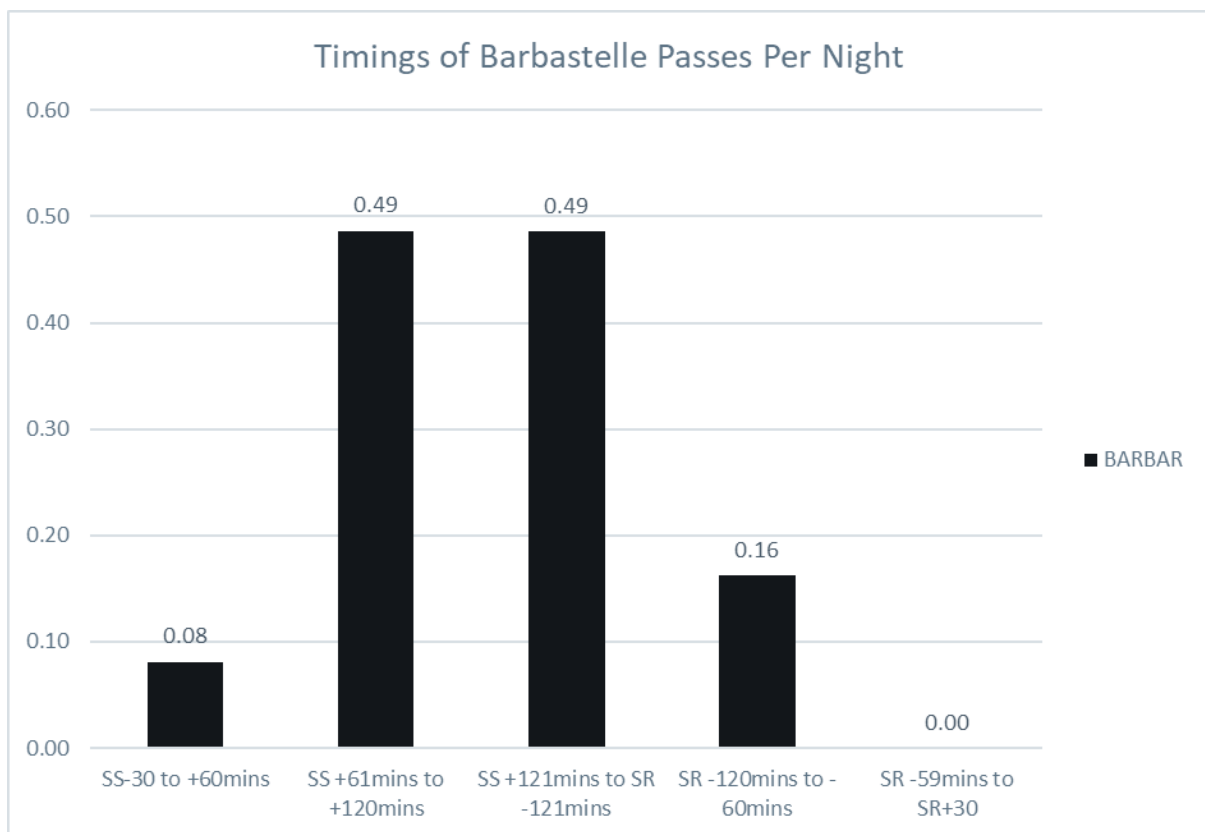
Table 1-11 – Barbastelle average PPN within Point 8 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.80	2.40	4.66	11.00	7.00	1.00

1.2.43 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-8.

1.2.44 61 minutes to 120 minutes after sunset and 121 minutes before sunset to 121 minutes after sunrise recorded a joint peak activity range of 0.49PPN. 120 minutes before sunrise to 60 minutes after sunrise recorded 0.16PPN whilst 30 minutes before sunset and up to 60 minutes after sunset recorded the lowest average of 0.08PPN.

Figure 1-8 – Timings of Barbastelle passes per night within Location Point 8





Location Point 9

1.2.45 A total of 587 Barbastelle passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 15.45PPN.

1.2.46 Monthly activity levels are presented in Table 1-12.

1.2.47 Barbastelle activity within the month of September at this location recorded the highest peak throughout all other locations with 49.00PPN. July recorded the second highest average with 28.33PPN while June recorded 26.80PPN. August recorded an average of 4.00PPN whilst October recorded 2.33PPN. Notably, April, and May detected no Barbastelle activity.

Table 1-12 – Barbastelle average PPN within Point 9 throughout all survey months

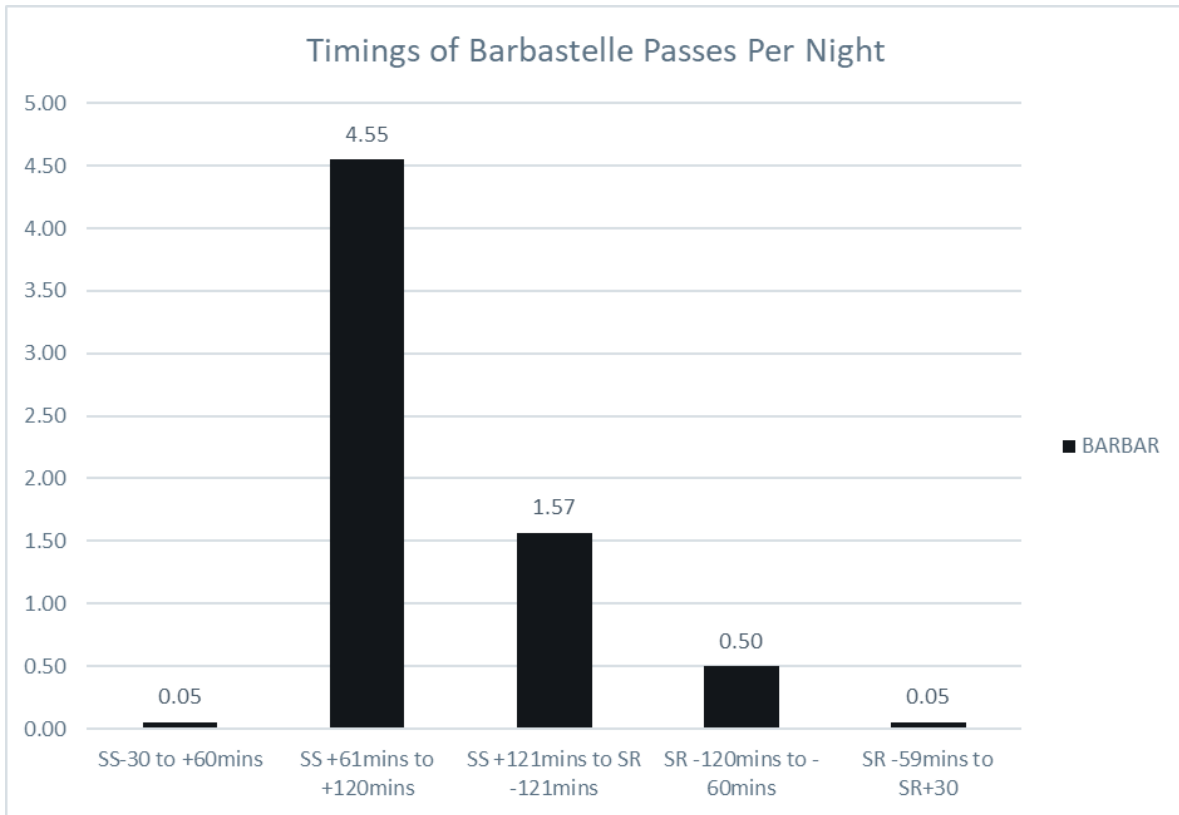
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	26.80	28.33	4.00	49.00	2.33

1.2.48 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-9.

1.2.49 61 minutes to 120 minutes after sunset recorded a joint peak activity range of 4.55PPN. 121 minutes after sunset and 121 before sunrise recorded 1.57PPN whilst 120 minutes before sunrise to 60 minutes after recorded 0.50PPN. Notably, 30 minutes before sunset up to 60 minutes after sunset and 59 minutes before sunrise up to 30 minutes after sunset, recorded the same average of 0.05PPN.



Figure 1-9 – Timings of Barbastelle passes per night within Location Point 9



Location Point 10

1.2.50 A total of one Barbastelle pass was recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 0.03PPN.

1.2.51 Monthly activity levels are presented in Table 1-13.

1.2.52 Due to the low number of Barbastelle passes within this location, June is the only month with activity recording an average of 0.16PPN. April, May, July, August, September, and October detected no Barbastelle passes.

Table 1-13 – Barbastelle average PPN within Point 10 throughout all survey months

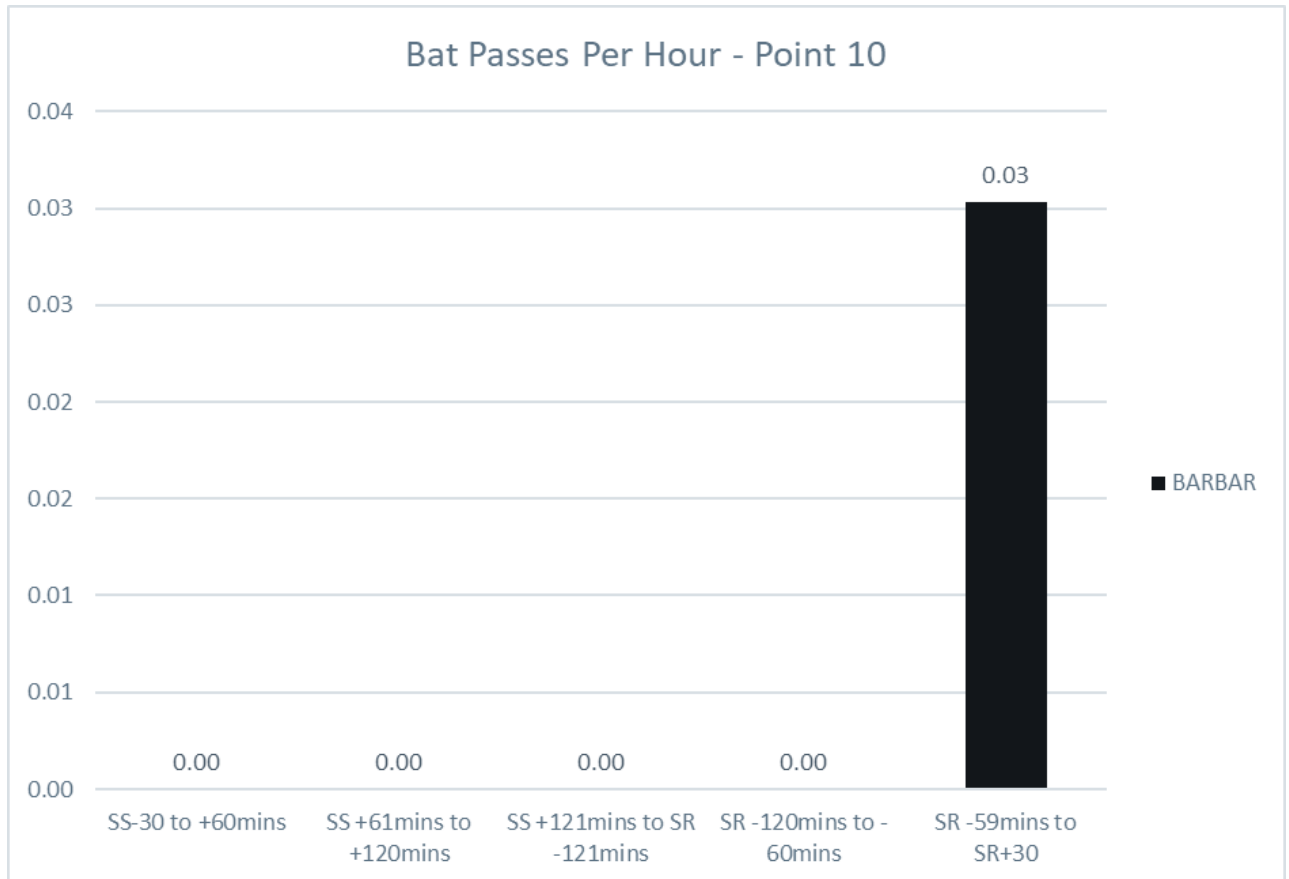
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.16	0.00	0.00	0.00	0.00



1.2.53 Monthly activity levels are presented in Figure 1-10.

1.2.54 Barbastelle activity recorded an average of 0.03PPN 59 minutes before sunrise up to 30 minutes after sunrise. Barbastelle activity was not recorded at any other time.

Figure 1-10 – Timings of Barbastelle passes per night within Location Point 10



Location Point 11

1.2.55 A total of six Barbastelle pass was recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 0.21PPN.

1.2.56 Monthly activity levels are presented in Table 1-14.

1.2.57 Barbastelle activity within the month of September at this location recorded the highest peak throughout all other locations with 0.60PPN. August recorded the second highest average with 0.33PPN whilst June recorded 0.16PPN. April, May, July, and October detected no Barbastelle passes.



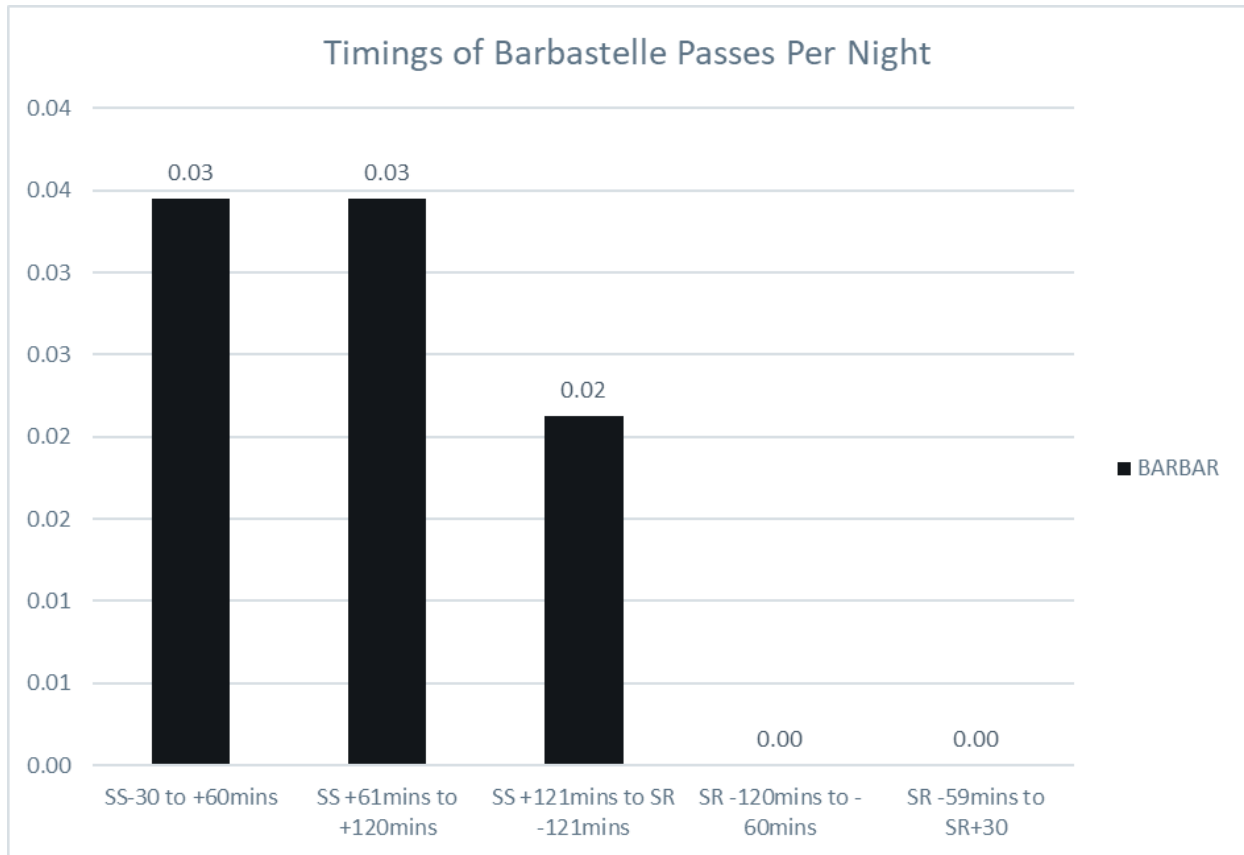
Table 1-14 – Barbastelle average PPN within Point 11 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.16	0.00	0.33	0.60	0.00

1.2.58 Barbastelle activity was recorded on the static detectors at varying times presented in Figure 1-11. 30 minutes before sunset and up to 60 minutes after sunset and 61 minutes and up to 120 minutes after sunset recorded the same average of 0.03PPN. 121 minutes after sunset and up to 121 minutes before sunrise recorded an average of 0.02PPN. No other timings recording barbastelle activity.



Figure 1-11 – Timings of Barbastelle passes per night within Location Point 11



Common Pipistrelle

Location Point 1

1.2.59 A total of 5033 Common Pipistrelle passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 152.52PPN.

1.2.60 Monthly activity levels are presented in Figure 1-10 presented in Table 1-15.

1.2.61 Common Pipistrelle activity within the month of September at Point 1 recorded the highest peak throughout all other locations with 480.80PPN. June recorded the second highest average with 404.80PPN whilst May recorded 136.00PPN. August recorded 34.44PPN while July recorded 30.20PPN. Notably, the months of October and April recorded a much lower activity average with 16.33PPN and 2.80PPN respectfully.



Table 1-15 – Common pipistrelle average PPN within Point 1 throughout all survey months

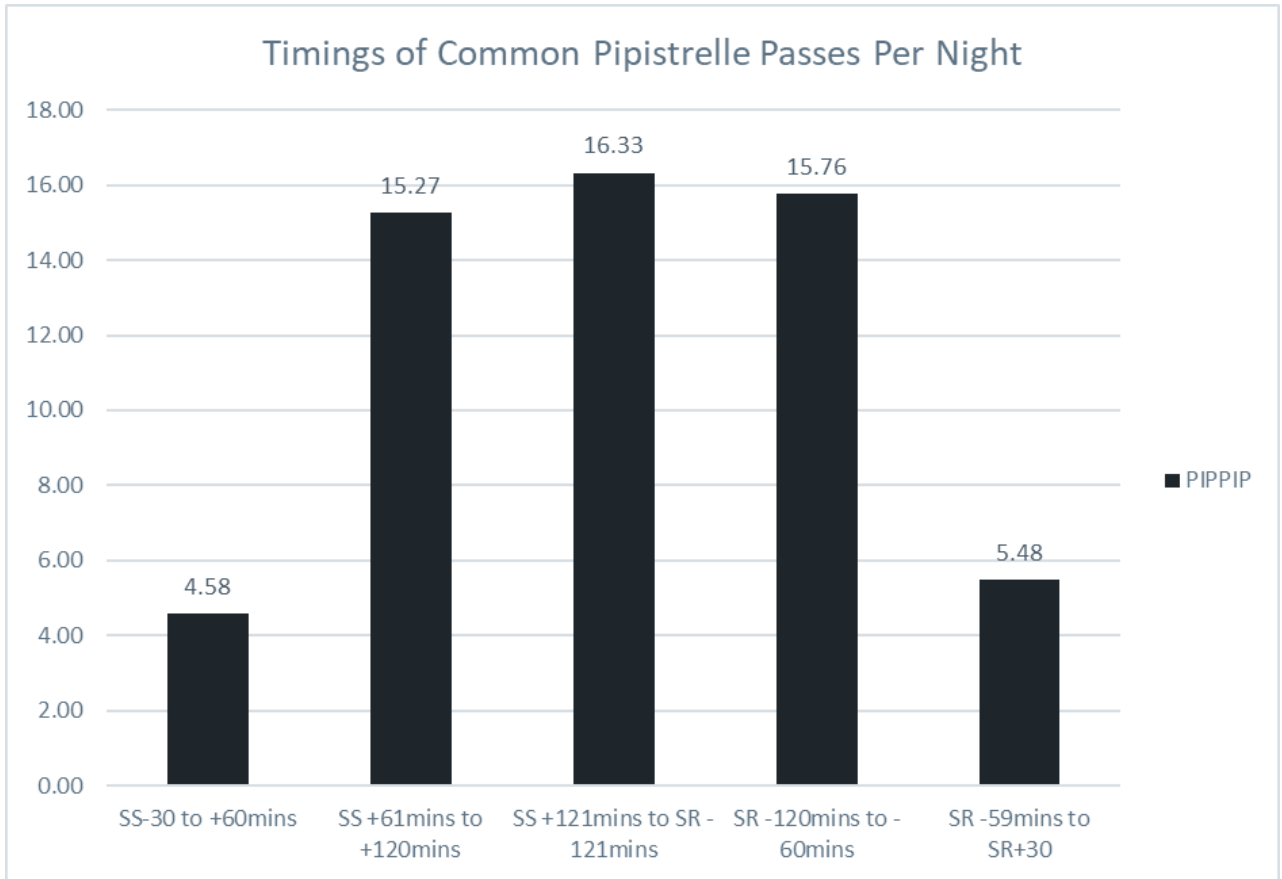
Month	April	May	June	July	August	September	October
Average PPN	2.80	136.00	404.80	30.20	34.33	480.80	16.33

1.2.62 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-12.

1.2.63 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise with 16.33PPN. The second highest activity was recorded 120 minutes before sunrise up to 60 minutes after with an average of 15.76PPN whilst 61 minutes before sunset and up to 120 minutes after recorded an average of 15.27PPN. 59 minutes before sunrise up to 30 minutes after detected an average of 5.48PPN while the lowest average of 4.58PPN was recorded 30 minutes before sunset and up to 60 minutes after sunset.



Figure 1-12 – Timings of Common Pipistrelle passes per night within Location Point 1



Location Point 2

1.2.64 A total of 1492 Common Pipistrelle passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 39.26PPN.

1.2.65 Monthly activity levels are presented in Table 1-16.

1.2.66 Common Pipistrelle activity within the month of July at Point 2 recorded the highest peak throughout all other locations with 160.66PPN. June recorded the second highest average with 45.40PPN whilst August recorded 26.66PPN. May recorded 16.60PPN whilst September recorded 5.60PPN. April recorded an average of 4.20PPN while October recorded the lowest average at Point 2 with 1.50PPN.



Table 1-16 – Common Pipistrelle average PPN within Point 2 throughout all survey months

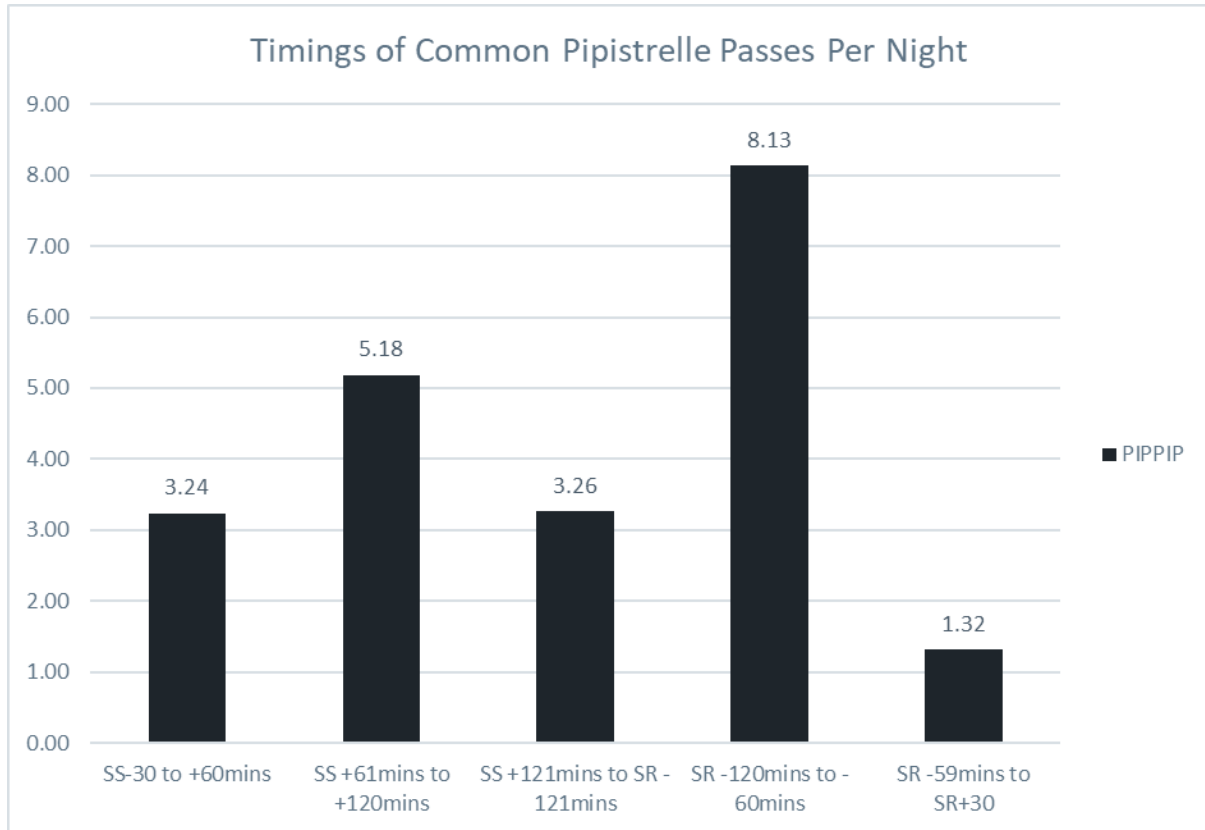
Month	April	May	June	July	August	September	October
Average PPN	4.20	16.60	45.40	160.66	26.66	5.60	1.50

1.2.67 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-13.

1.2.68 Activity peaked 120 minutes before sunrise up to 60 minutes after with 8.13PPN. 61 minutes before sunset and up to 120 minutes after recorded an average of 5.18PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 3.26PPN. Notably, 30 minutes before sunset up to 60 minutes after recorded a similar average of 3.24PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 2 with 1.32PPN.



Figure 1-13 – Timings of Common Pipistrelle passes per night within Location Point 2



Location Point 3

1.2.69 A total of 6869 Common Pipistrelle passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 180.76PPN.

1.2.70 Monthly activity levels are presented in Table 1-17.

1.2.71 Common pipistrelle activity within the month of June at Point 3 recorded the highest peak throughout all other locations with 618.20PPN. May recorded the second highest average with 311.20PPN whilst August recorded 184.16PPN. October recorded 74.00PPN whilst September recorded 61.40PPN. July recorded an average of 52.00PPN while April recorded the lowest average at Point 3 with 10.80PPN.



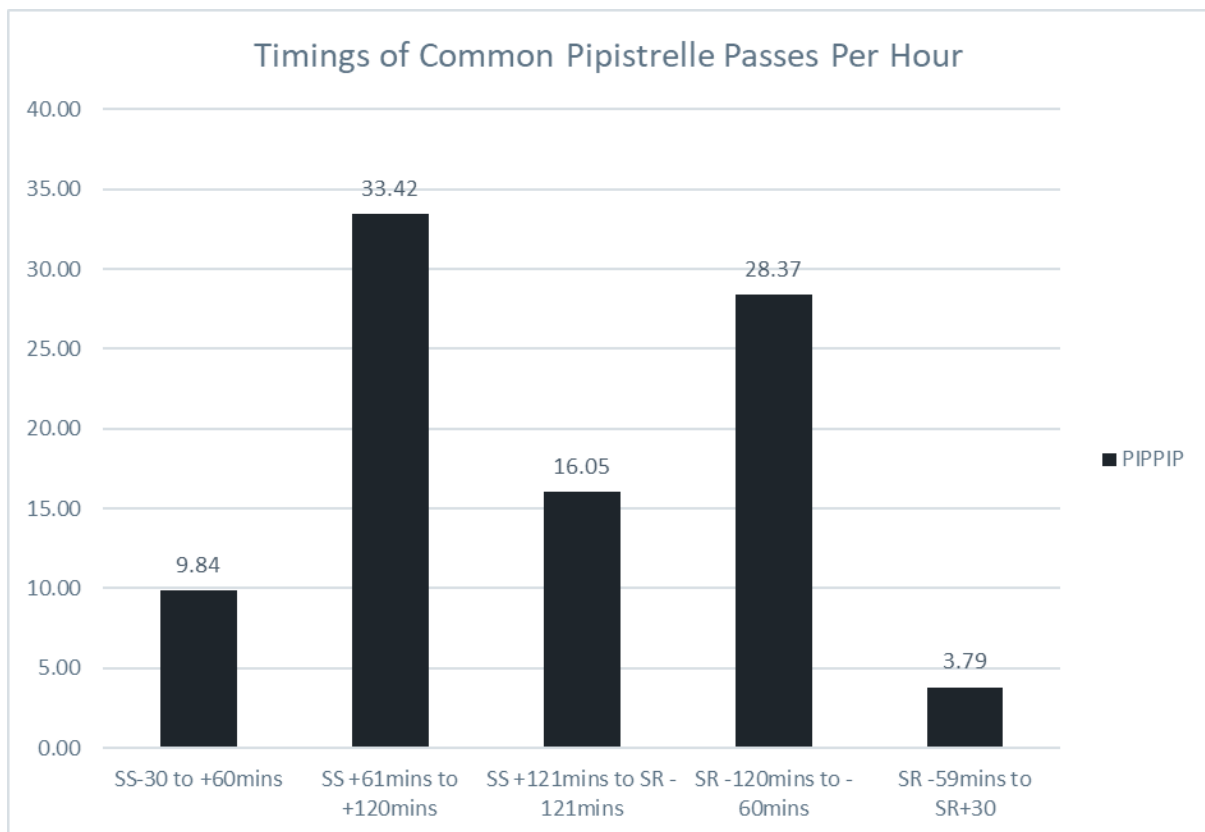
Table 1-17 – Common Pipistrelle average PPN within Point 3 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	10.80	311.20	618.20	52.00	184.16	61.40	74.00

1.2.72 Common pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-14.

1.2.73 Activity peaked 61 minutes after sunset up to 120 minutes with 33.42PPN. 120 minutes before sunrise up to 60 minutes after sunrise recorded an average of 28.37PPN. 121 minutes after sunset up to 121 minutes before sunrise recorded 16.05PPN whilst 9.84PPN was recorded 30 minutes before sunset up to 60 minutes after. The lowest average was recorded 59 minutes before sunrise up to 30 minutes after with 3.79PPN.

Figure 1-14 – Timings of Common Pipistrelle passes per night within Location Point 3





Location Point 4

- 1.1.1 A total of 13,978 Common Pipistrelle passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 363.11PPN.
- 1.1.2 Monthly activity levels are presented in Table 1-18.
- 1.1.3 Common Pipistrelle activity within the month of August at Point 4 recorded the highest peak throughout all other locations with 717.50PPN. September recorded the second highest average with 642.80PPN whilst May recorded 439.80PPN. July recorded 327.33PPN whilst October recorded 177.83PPN. June recorded an average of 135.80PPN while April recorded the lowest average at Point 4 with 74.00PPN.

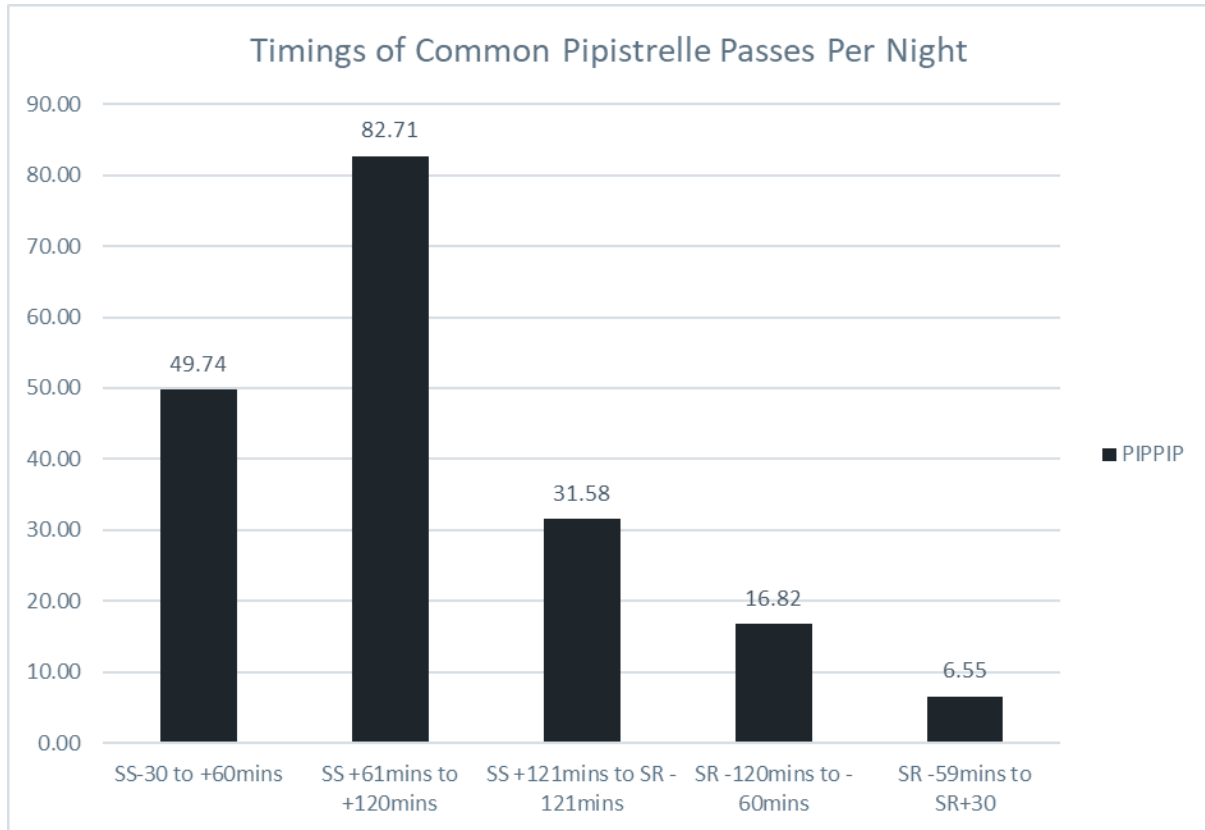
Table 1-18 – Common Pipistrelle average PPN within Point 4 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	74.00	439.80	135.80	327.33	717.50	642.80	177.83

- 1.2.74 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-15.
- 1.2.75 Activity peaked 61 minutes before sunset up to 120 minutes after with 82.71PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 49.72PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 31.58PPN. Notably, 120 minutes before sunrise up to 60 minutes after recorded an average of 16.82PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 4 with 6.55PPN.



Figure 1-15 – Timings of Common Pipistrelle passes per night within Location Point 4



Location Point 5

1.2.76 A total of 9,787 Common Pipistrelle passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 257.55PPN.

1.2.77 Monthly activity levels are presented in Table 1-19.

1.2.78 Common Pipistrelle activity within the month of August at Point 5 recorded the highest peak throughout all other locations with 505.50PPN. September recorded the second highest average with 464.40PPN whilst October recorded 260.16PPN. May recorded 196.20PPN whilst July recorded 150.66PPN. June recorded an average of 144.20PPN while April recorded the lowest average at Point 5 with 53.00PPN.



Table 1-19 – Common pipistrelle average PPN within Point 5 throughout all survey months

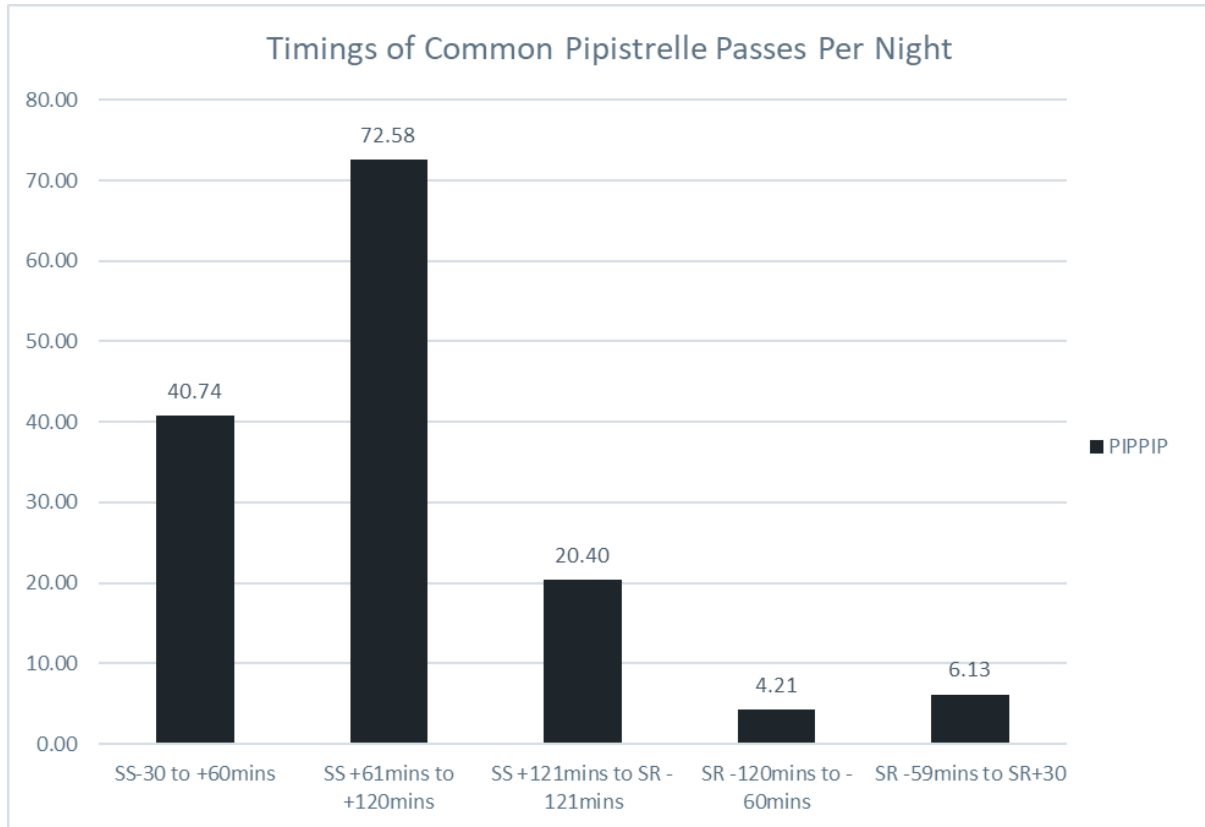
Month	April	May	June	July	August	September	October
Average PPN	53.00	196.20	144.20	150.66	505.50	464.40	260.16

1.2.79 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-16.

1.2.80 Activity peaked 61 minutes before sunset up to 120 minutes after with 72.58PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 40.74PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 20.40PPN. 59 minutes before sunrise up to 30 minutes after recorded an average of 6.13PPN while 120 minutes before sunrise up to 60 minutes after recorded the lowest average throughout Point 5 with 4.21PPN.



Figure 1-16 – Timings of Common Pipistrelle passes per night within Location Point 5



Location Point 6

1.2.81 A total of 1,113 Common Pipistrelle passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 29.82PPN.

1.2.82 Monthly activity levels are presented in Table 1-20.

1.2.83 Common Pipistrelle activity within the month of October at Point 6 recorded the highest peak throughout all other locations with 69.66PPN. July recorded the second highest average with 63.16PPN whilst August recorded 26.16PPN. June recorded 13.20PPN whilst September recorded 12.00PPN. May recorded an average of 10.00PPN while April recorded the lowest average at Point 6 with 00.60PPN.



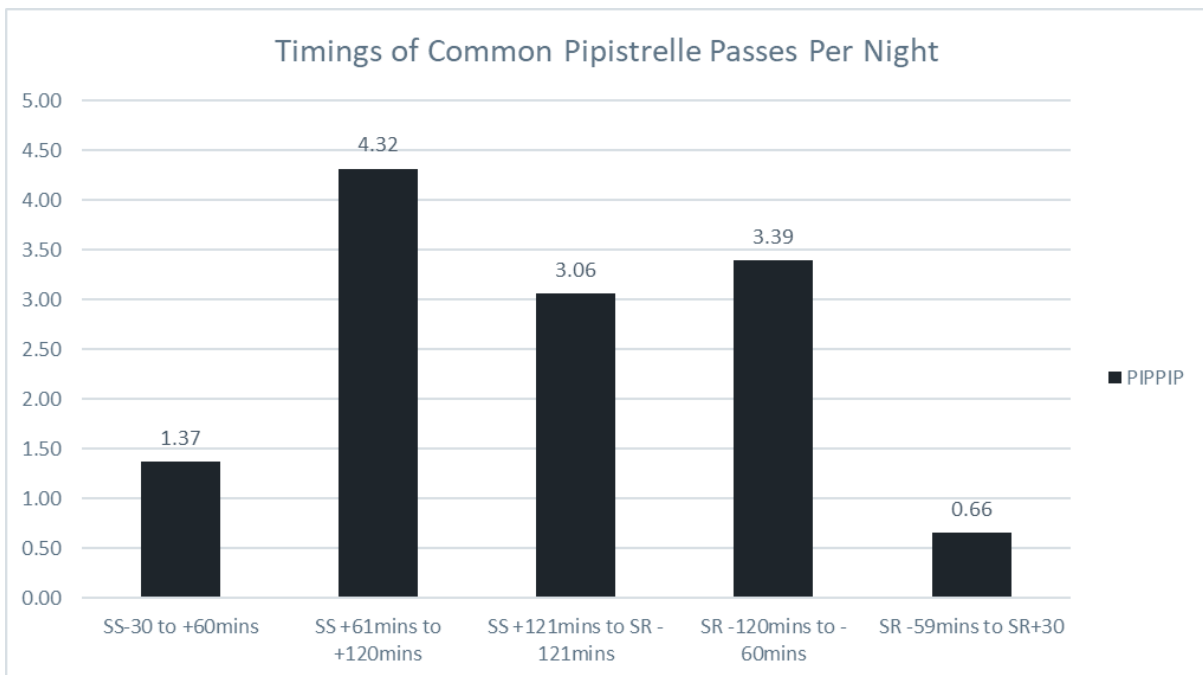
Table 1-20 – Common Pipistrelle average PPN within Point 6 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.60	10.00	13.20	63.16	26.16	12.00	69.66

1.2.84 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-17.

1.2.85 Activity peaked 61 minutes before sunset up to 120 minutes after with 4.32PPN. 120 minutes before sunrise up to 60 minutes after recorded an average of 3.39PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 3.06PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 1.37PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 6 with 0.66PPN.

Figure 1-17 – Timings of Common Pipistrelle Passes per night within Location Point 6





Location Point 7

1.2.86 A total of 1,072 Common Pipistrelle passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 28.21PPN.

1.2.87 Monthly activity levels are presented in Table 1-21.

1.2.88 Common Pipistrelle activity within the month of June at Point 7 recorded the highest peak throughout all other locations with 101.60PPN August recorded the second highest average with 50.16PPN whilst July recorded 30.00PPN. September recorded 7.20PPN whilst October recorded 4.33PPN. April recorded an average of 2.80PPN while May recorded the lowest average at Point 7 with 1.40PPN.

Table 1-21 – Common Pipistrelle average PPN within Point 7 throughout all survey months

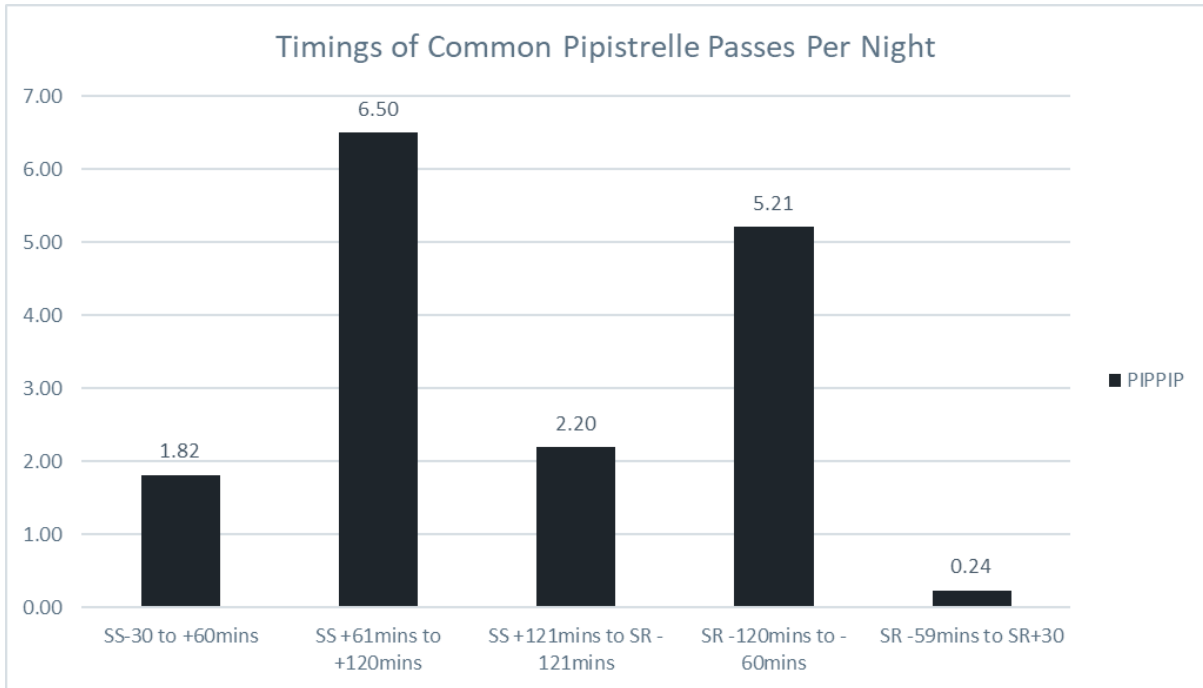
Month	April	May	June	July	August	September	October
Average PPN	2.80	1.40	101.60	30.00	50.16	7.20	4.33

1.2.89 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-18.

1.2.90 Activity peaked 61 minutes before sunset up to 120 minutes after with 6.50PPN. 120 minutes before sunrise up to 60 minutes after recorded an average of 5.21PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 2.20PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 1.82PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 7 with 0.24PPN.



Figure 1-18 – Timings of Common Pipistrelle passes per night within Location Point 7



Location Point 8

1.2.91 A total of 2,602 Common Pipistrelle passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 70.32PPN.

1.2.92 Monthly activity levels are presented in Table 1-22.

1.2.93 Common Pipistrelle activity within the month of July at Point 8 recorded the highest peak throughout all other locations with 186.00PPN. June recorded the second highest average with 90.80PPN whilst September recorded 70.50PPN. October recorded 55.66PPN whilst August recorded 52.00PPN. May recorded an average of 15.00PPN while April recorded the lowest average at Point 8 with 5.80PPN.



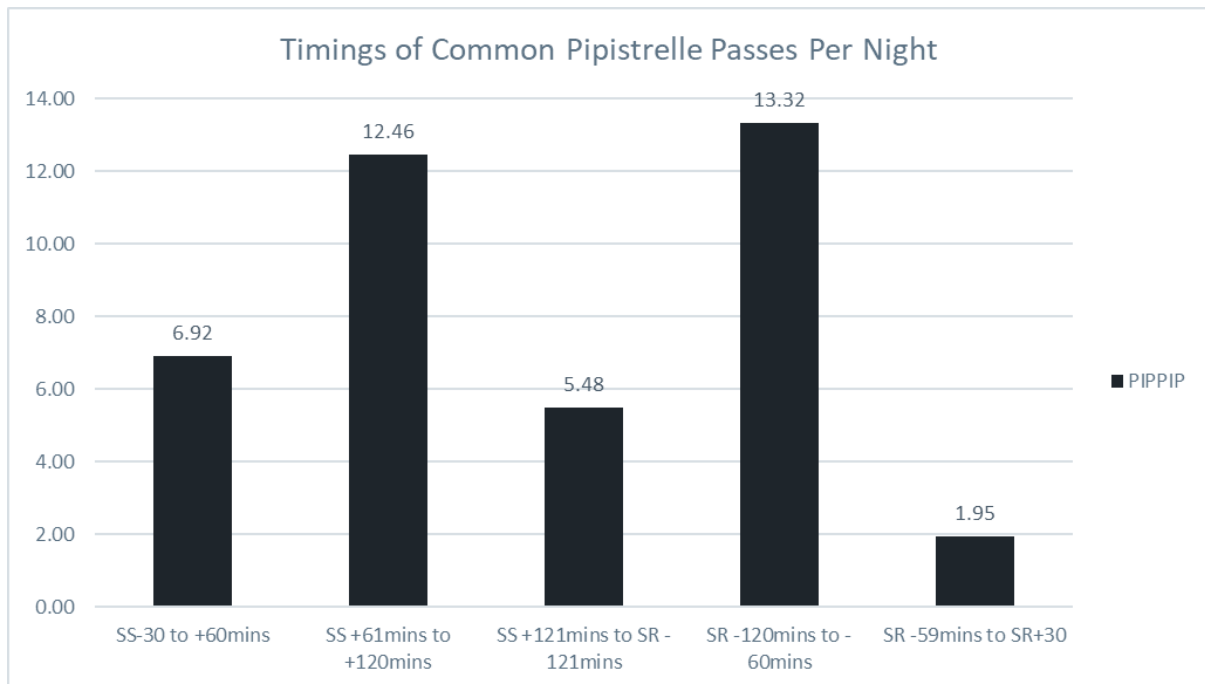
Table 1-22 – Common Pipistrelle average PPN within Point 8 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	5.80	15.00	90.80	186.00	52.00	70.50	55.66

1.2.94 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-19.

1.2.95 Activity peaked 120 minutes before sunrise up to 60 minutes after recorded an average of 13.32PPN with 61 minutes before sunset up to 120 minutes after recorded an average of 12.46PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 6.92PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded 5.48PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 8 with 1.95PPN.

Figure 1-19 – Timings of Common Pipistrelle passes per night within Location Point 8





Location Point 9

1.2.96 A total of 4,573 Common Pipistrelle passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 120.34PPN.

1.2.97 Monthly activity levels are presented in Table 1-23.

1.2.98 Common pipistrelle activity within the month of June at Point 9 recorded the highest peak throughout all other locations with 355.60PPN. July recorded the second highest average with 193.50PPN whilst August recorded 141.83PPN. September recorded 76.60PPN whilst October recorded 57.50PPN. April recorded an average of 6.40PPN while May recorded the lowest average at Point 9 with 4.60PPN.

Table 1-23 – Common Pipistrelle average PPN within Point 9 throughout all survey months

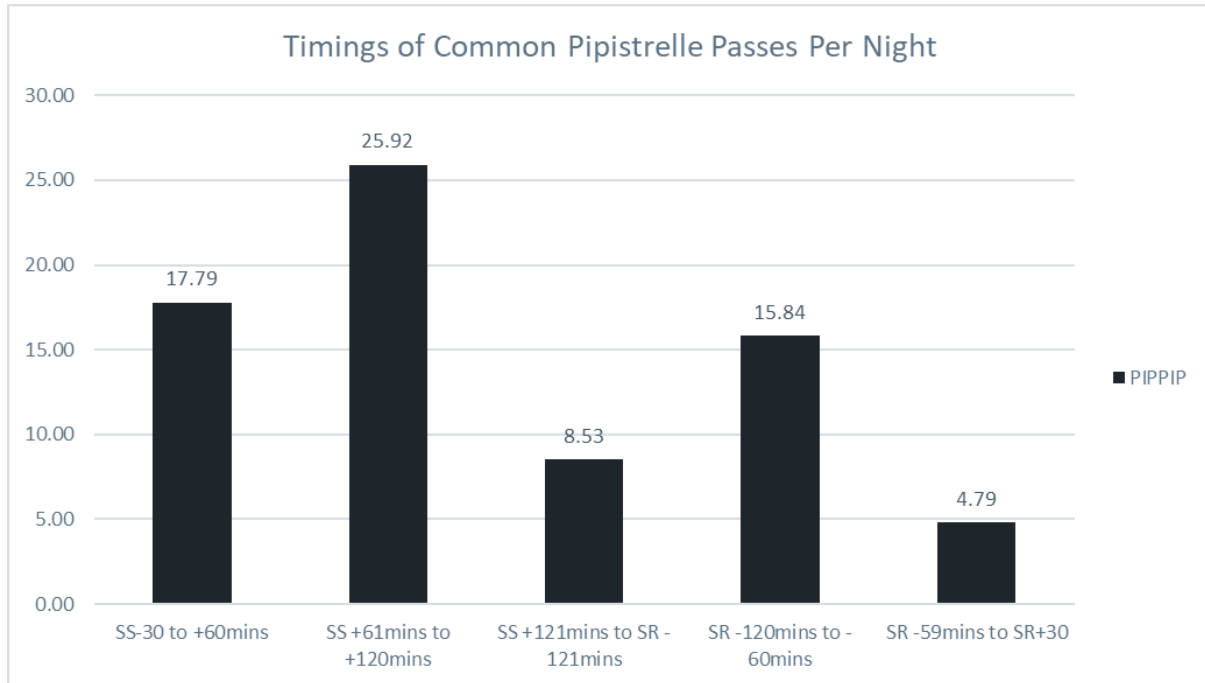
Month	April	May	June	July	August	September	October
Average PPN	6.40	4.60	355.60	193.50	141.83	76.60	57.50

1.2.99 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-20.

1.2.100 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 25.92PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 17.79PPN. 120 minutes before sunrise up to 60 minutes after recorded an average of 15.84PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded 8.53PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 9 with 4.79PPN.



Figure 1-20 – Timings of Common Pipistrelle passes per night within Location Point 9



Location Point 10

1.2.101 A total of 795 Common Pipistrelle passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 24.09PPN.

1.2.102 Monthly activity levels are presented in Table 1-24.

1.2.103 Common Pipistrelle activity within the month of October at Point 10 recorded the highest peak throughout all other locations with 57.83PPN. June recorded the second highest average with 49.66PPN whilst July recorded 14.33PPN. September recorded 8.00PPN whilst May recorded 4.20PPN. April recorded the lowest average at Point 10 with 0.60PPN, however, within the month of August, Common Pipistrelle bats were not recorded.



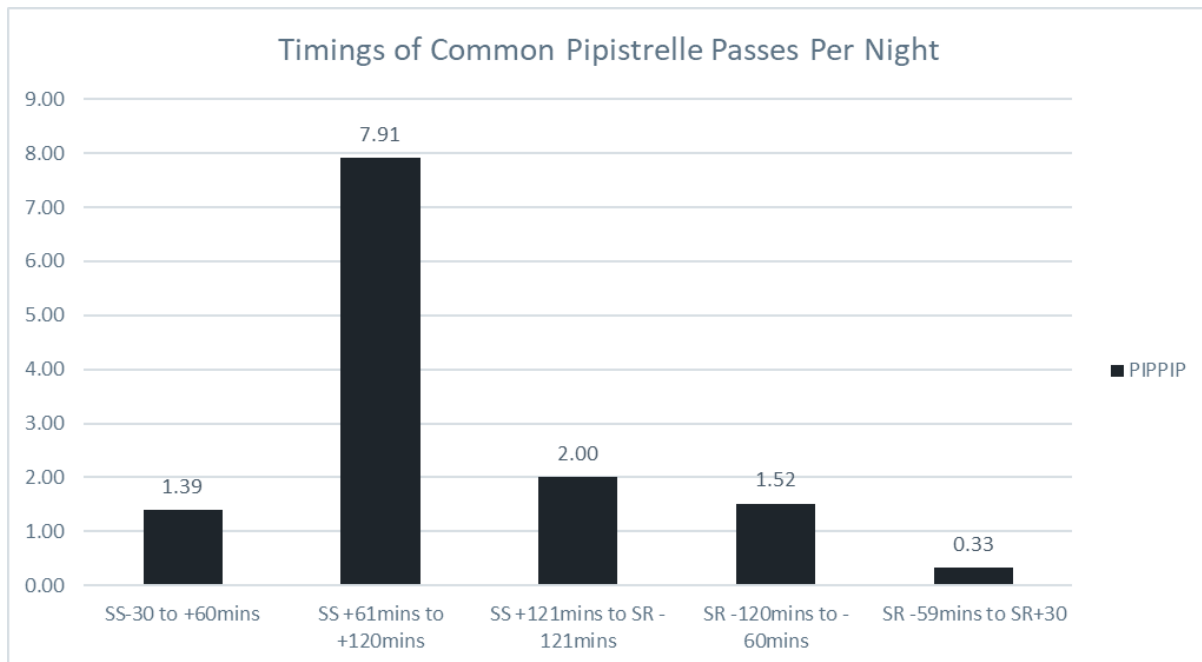
Table 1-24 – Common Pipistrelle average PPN within Point 10 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.60	4.20	49.66	14.33	0.00	8.00	57.83

1.2.104 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-21.

1.2.105 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 7.91PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded 2.00PPN. 120 minutes before sunrise up to 60 minutes after recorded an average of 1.52PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 1.39PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 10 with 0.33PPN.

Figure 1-21 – Timings of Common Pipistrelle passes per night within Location Point 10





Location Point 11

1.2.106 A total of 287 Common Pipistrelle passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 9.90PPN.

1.2.107 Monthly activity levels are presented in Table 1-25.

1.2.108 Common Pipistrelle activity within the month of September at Point 11 recorded the highest peak throughout all other locations with 15.80PPN. July recorded the second highest average with 12.33PPN whilst August recorded 11.33PPN. June recorded 10.50PPN whilst October recorded the lowest average at Point 11 with 0.50PPN. Within the month of April and May, Common Pipistrelle bats were not recorded.

Table 1-25 – Common Pipistrelle average PPN within Point 11 throughout all survey months

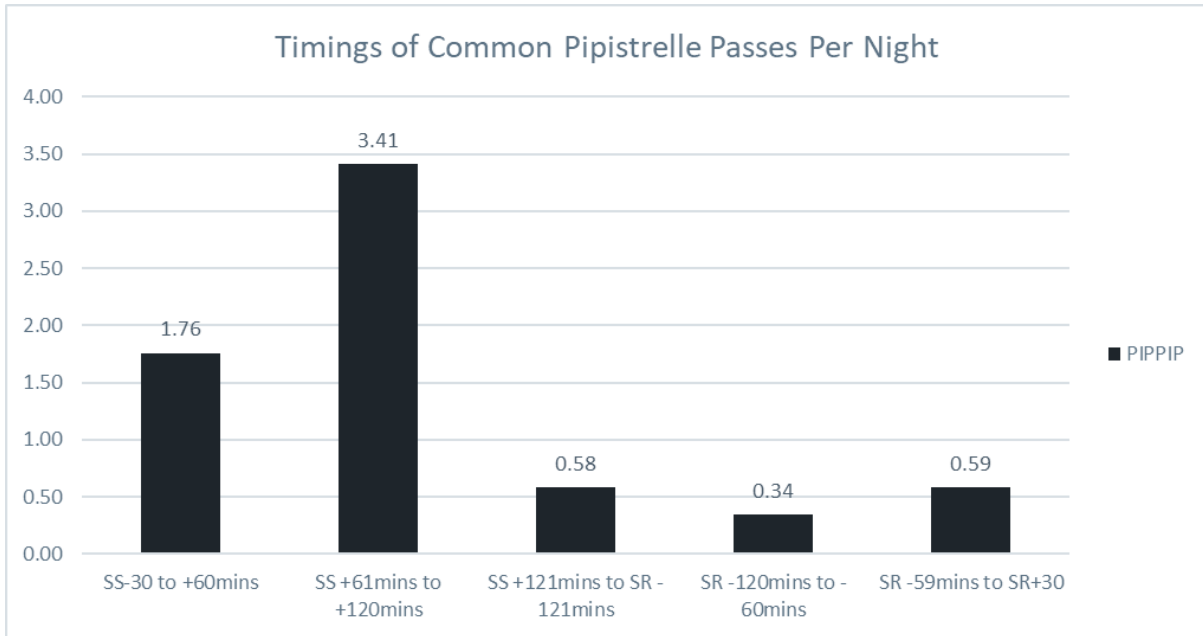
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	10.50	12.33	11.33	15.80	0.50

1.2.109 Common Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-22.

1.2.110 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 3.41PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 1.76PPN. 59 minutes before sunrise up to 30 minutes after recorded 0.59PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.58PPN. 120 minutes before sunrise up to 60 minutes after recorded the lowest average throughout Point 11 with 0.34PPN.



Figure 1-22 – Timings of Common Pipistrelle passes per night within Location Point 11



Soprano Pipistrelle

Location Point 1

1.2.111 A total of 457 Soprano Pipistrelle passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 13.85PPN.

1.2.112 Monthly activity levels are presented in Table 1-26.

1.2.113 Soprano Pipistrelle activity within the month of June at Point 1 recorded the highest peak throughout all other locations with 42.80PPN. May recorded the second highest average with 35.00PPN whilst August recorded 22.16PPN. October recorded 5.83PPN whilst July recorded 4.60PPN. April recorded the lowest average at Point 1 of 3.40PPN while the month of September had no recordings Soprano Pipistrelles.

Table 1-26 – Soprano Pipistrelle average PPN within Point 1 throughout all survey months

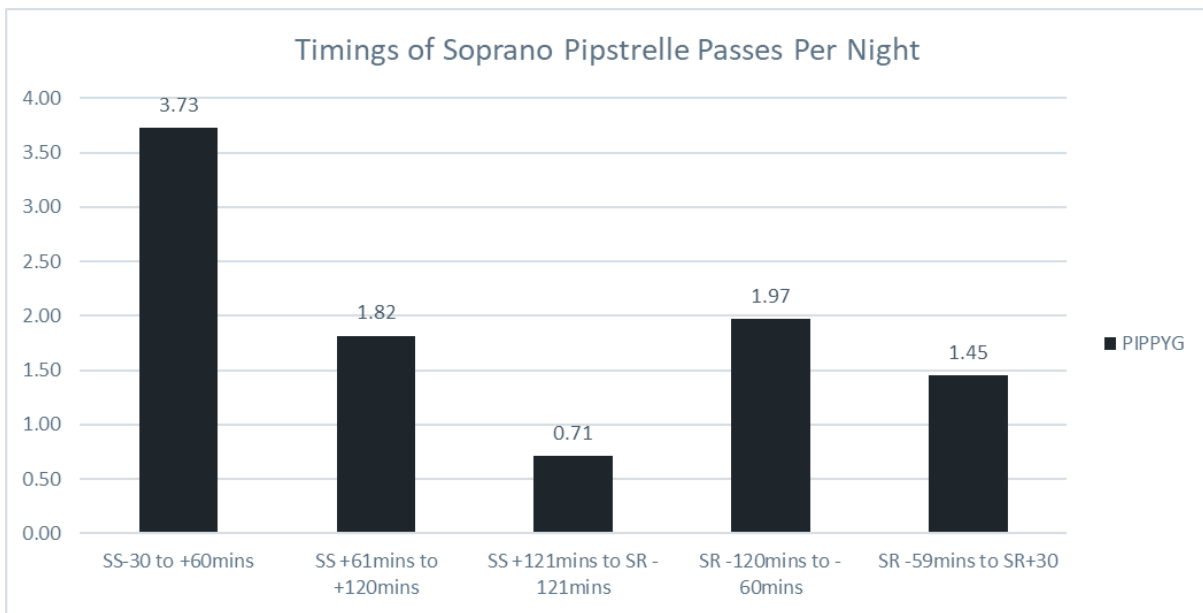
Month	April	May	June	July	August	September	October
Average PPN	3.40	35.00	42.80	4.60	22.16	0.00	5.83



1.2.114 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-23.

1.2.115 Activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 3.73PPN while 120 minutes before sunrise up to 60 minutes after recorded an average of 1.97PPN. 61 minutes before sunset up to 120 minutes after recorded an average of 1.82PPN whilst 59 minutes before sunrise up to 30 minutes after recorded 1.45PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average throughout Point 1 with 0.71PPN.

Figure 1-23 – Timings of Soprano Pipistrelle passes per night within Location Point 1



Location Point 2

1.2.116 A total of 593 Soprano Pipistrelle passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 15.61PPN.

1.2.117 Monthly activity levels are presented in Table 1-27.

1.2.118 Soprano Pipistrelle activity within the month of July at Point 2 recorded the highest peak throughout all other locations with 60.50PPN.



1.2.119 August recorded the second highest average with 13.33PPN whilst September recorded 10.00PPN. June recorded 6.00PPN whilst April recorded 5.00PPN. May recorded 4.60PPN while October recorded the lowest average at Point 2 with 3.66PPN.

Table 1-27 – Soprano Pipistrelle average PPN within Point 2 throughout all survey months

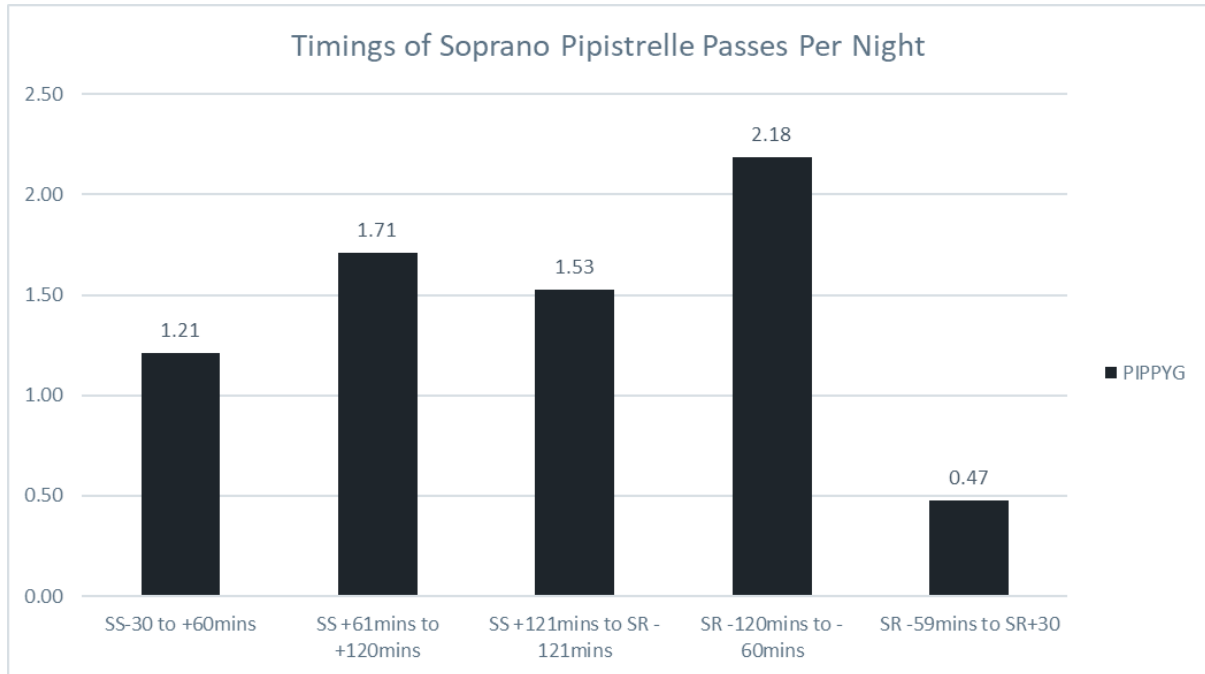
Month	April	May	June	July	August	September	October
Average PPN	5.00	4.60	6.00	60.50	13.33	10.00	3.66

1.2.120 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-24.

1.2.121 Activity peaked 120 minutes before sunrise up to 60 minutes after recorded an average of 2.18PPN while 61 minutes before sunset up to 120 minutes after recorded an average of 1.71PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 1.53PPN whilst 30 minutes before sunset and up to 60 minutes after recorded an average of 1.21PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 2 with 0.47PPN.



Figure 1-24 – Timings of Soprano Pipistrelle passes per night within Location Point 2



Location Point 3

1.2.122 A total of 4,072 Soprano Pipistrelle passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 107.16PPN.

1.2.123 Monthly activity levels are presented in Table 1-28.

1.2.124 Soprano Pipistrelle activity within the month of August at Point 3 recorded the highest peak throughout all other locations with 384.16PPN. June recorded the second highest average with 139.00PPN whilst October recorded 75.83PPN. September recorded 68.49PPN whilst July recorded 23.66PPN. April recorded 15.20PPN while May recorded the lowest average at Point 3 with 11.40PPN.

Table 1-28 – Soprano Pipistrelle average PPN within Point 3 throughout all survey months

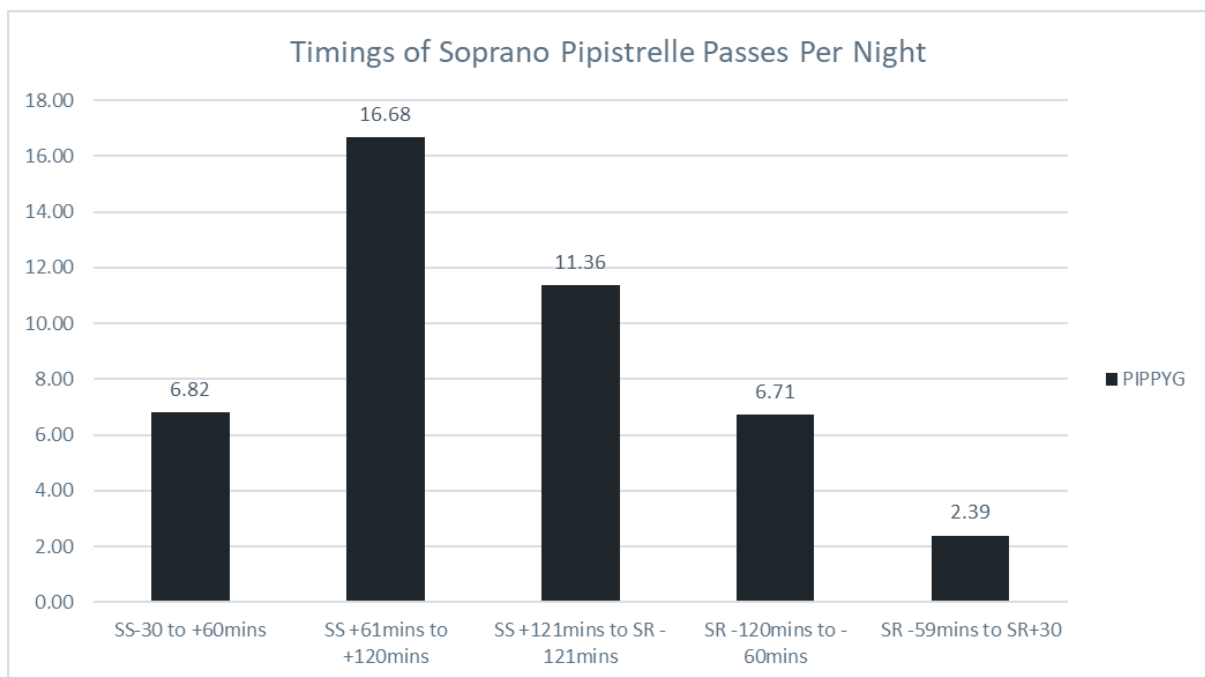
Month	April	May	June	July	August	September	October
Average PPN	15.20	11.40	139.00	23.66	384.16	68.40	75.83



1.2.125 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-25.

1.2.126 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 16.68PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 11.36PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 6.82PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 6.71PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 3 with 2.39PPN.

Figure 1-25 – Timings of Soprano Pipistrelle passes per night within Location Point 3



Location Point 4

1.2.127 A total of 6,211 Soprano Pipistrelle passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 163.45PPN.

1.2.128 Monthly activity levels are presented in Table 1-29.

1.2.129 Soprano Pipistrelle activity within the month of August at Point 4 recorded the highest peak throughout all other locations with 449.50PPN. September



recorded the second highest average with 413.00PPN whilst July recorded 99.16PPN. October recorded 61.50PPN whilst May recorded 39.40PPN. April recorded 31.40PPN while May recorded the lowest average at Point 4 with 26.20PPN.

Table 1-29 – Soprano Pipistrelle average PPN within Point 4 throughout all survey months

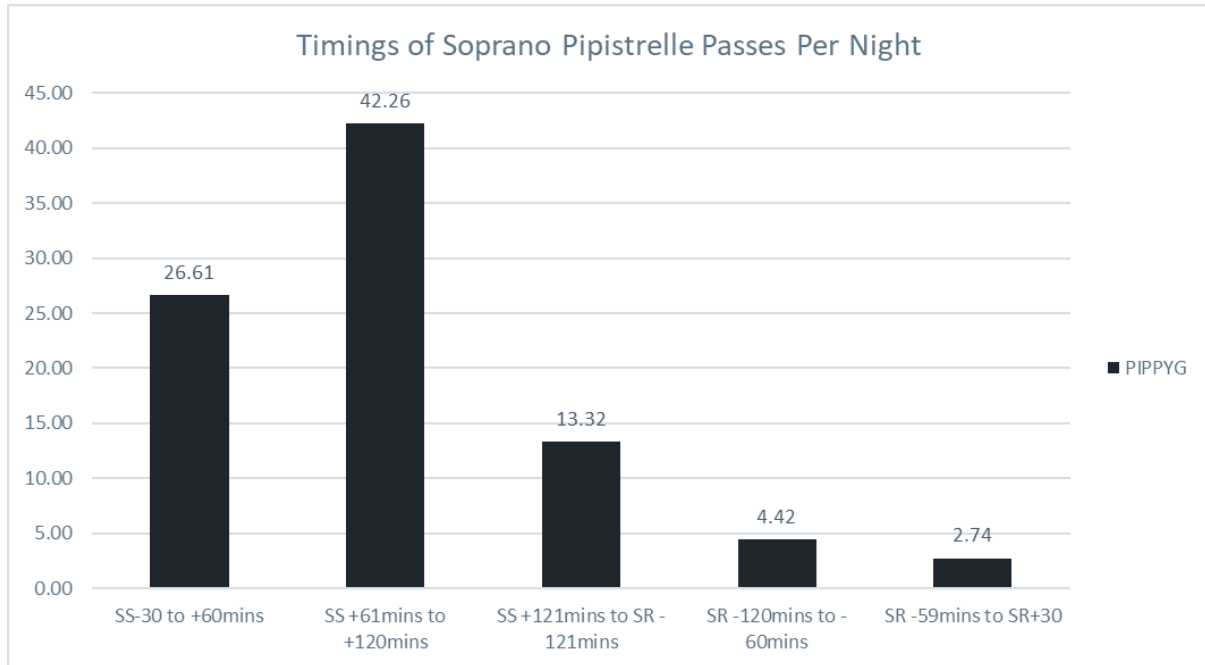
Month	April	May	June	July	August	September	October
Average PPN	31.40	39.40	26.20	99.16	449.50	413.00	61.50

1.2.130 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-26.

1.2.131 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 42.26PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 26.61PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 13.32PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 4.42PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 4 with 2.74PPN.



Figure 1-26 – Timings of Soprano Pipistrelle passes per night within Location Point 4



Location Point 5

1.2.132 A total of 3,835 Soprano Pipistrelle passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 100.92PPN.

1.2.133 Monthly activity levels are presented in **Table 1-30**. Soprano Pipistrelle activity within the month of September at Point 5 recorded the highest peak throughout all other locations with 217.40PPN. October recorded the second highest average with 175.50PPN whilst August recorded 133.83PPN. July recorded 126.16PPN whilst June recorded 15.20PPN. April recorded 9.20PPN while May recorded the lowest average at Point 5 with 2.60PPN.

Table 1-30 – Soprano Pipistrelle average PPN within Point 5 throughout all survey months

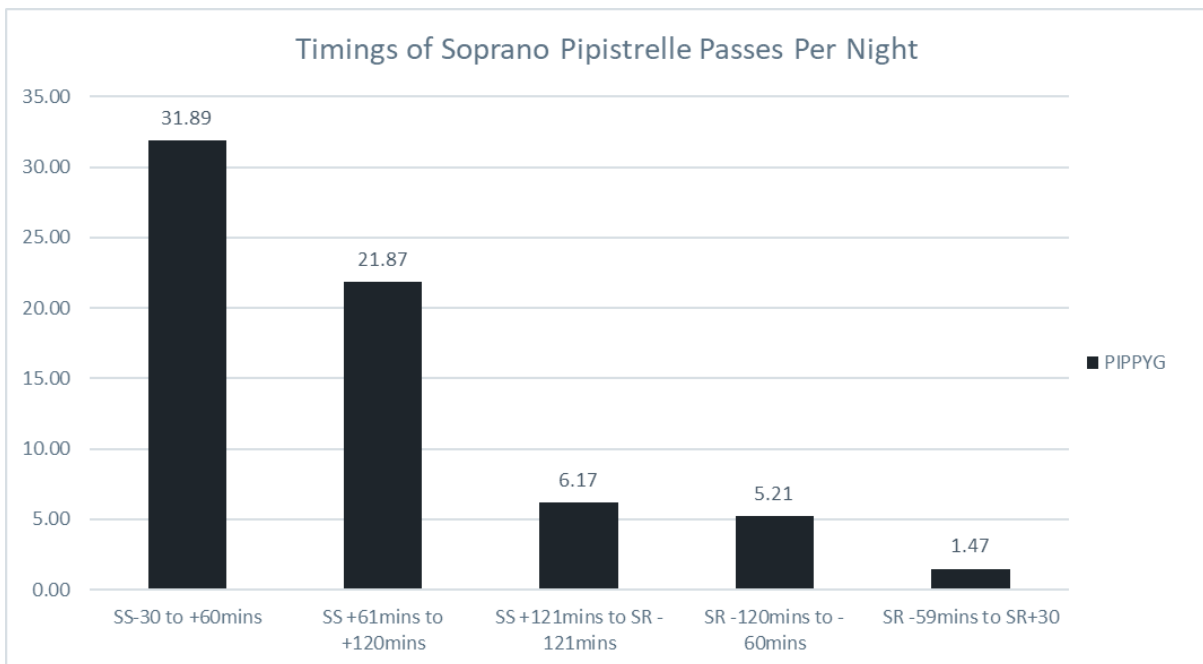
Month	April	May	June	July	August	September	October
Average PPN	9.20	2.60	15.20	126.16	133.83	217.40	175.50



1.2.134 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-27.

1.2.135 Activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 31.89PPN while 61 minutes before sunset up to 120 minutes after recorded an average of 21.87PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 6.17PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 5.21PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 5 with 1.47PPN.

Figure 1-27 – Timings of Soprano Pipistrelle passes per night within Location Point 5



Location Point 6

1.2.136 A total of 589 Soprano Pipistrelle passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 15.50PPN.

1.2.137 Monthly activity levels are presented in Table 1-31.

1.2.138 Soprano Pipistrelle activity within the month of July at Point 6 recorded the highest peak throughout all other locations with 38.16PPN. October recorded the second highest average with 30.00PPN whilst August recorded



19.50PPN. September recorded 11.40PPN whilst June recorded 1.00PPN. April recorded the lowest average at Point 6 with 0.20PPN, whilst the month of May had no soprano pipistrelle bats recorded.

Table 1-31 – Soprano Pipistrelle average PPN within Point 6 throughout all survey months

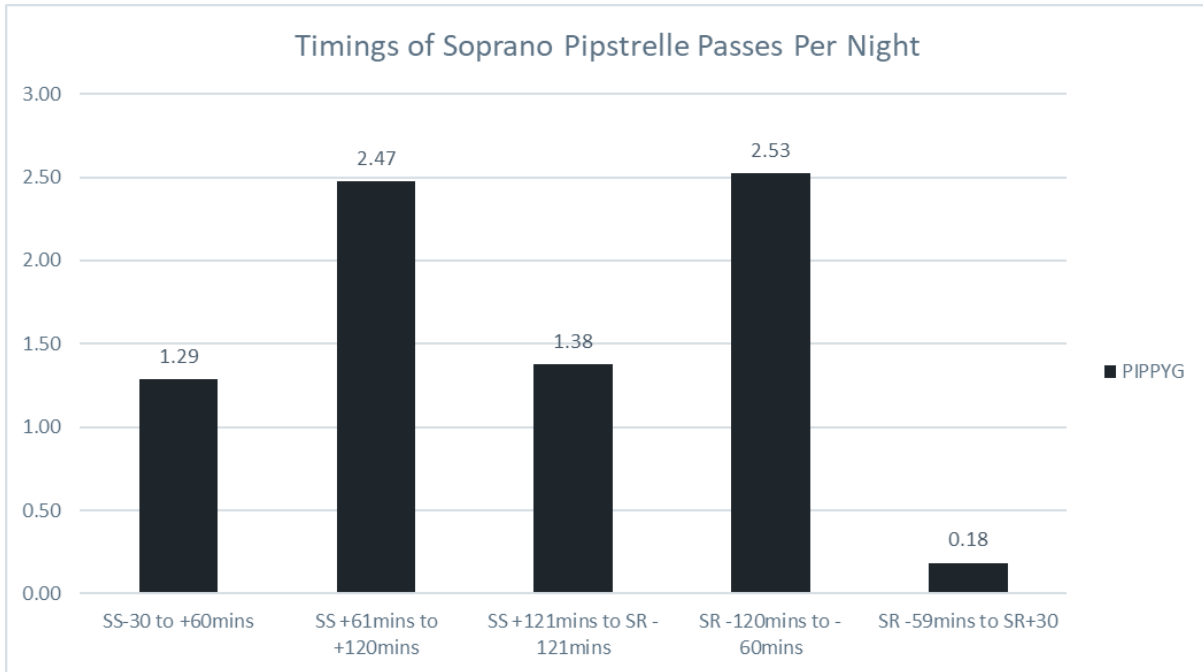
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.00	1.00	38.16	19.50	11.40	30.00

1.2.139 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-28.

1.2.140 Activity peaked 120 minutes before sunrise up to 60 minutes after recorded an average of 2.53PPN while 61 minutes before sunset up to 120 minutes after recorded an average of 2.47PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 1.38PPN whilst 30 minutes before sunset and up to 60 minutes after recorded an average of 1.29PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 6 with 0.18PPN.



Figure 1-28 – Timings of Soprano Pipistrelle passes per night within Location Point 6



Location Point 7

1.2.141 A total of 1,212 Soprano Pipistrelle passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 31.89PPN.

1.2.142 Monthly activity levels are presented in Table 1-32.

1.2.143 Soprano Pipistrelle activity within the month of August at Point 7 recorded the highest peak throughout all other locations with 66.50PPN.

1.2.144 July recorded the second highest average with 37.16PPN whilst June and September recorded 25.60PPN. April recorded 16.40PPN whilst October recorded 14.00PPN.

Table 1-32 – Soprano Pipistrelle average PPN within Point 7 throughout all survey months

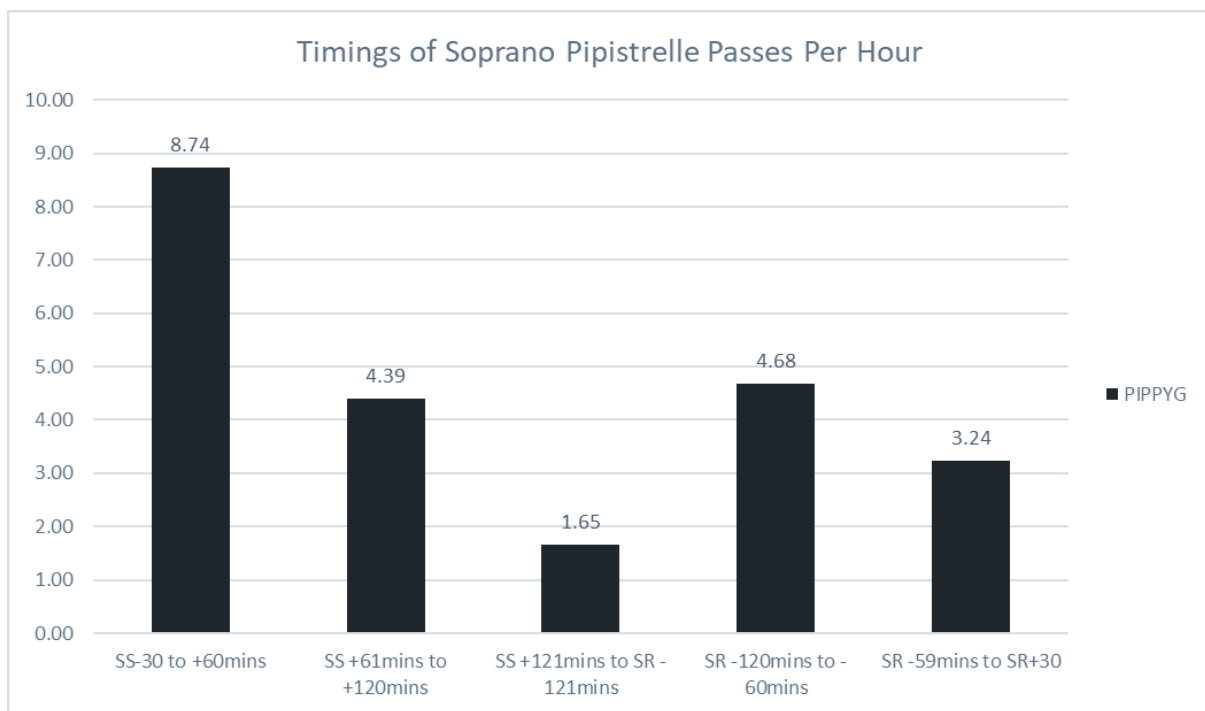
Month	April	May	June	July	August	September	October
Average PPN	16.40	13.60	35.60	37.16	66.50	35.60	14.00



1.2.145 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-29.

1.2.146 Activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 8.74PPN while 120 minutes before sunrise up to 60 minutes after recorded an average of 4.68PPN. 61 minutes before sunset up to 120 minutes after recorded an average of 4.39PPN whilst 59 minutes before sunrise up to 30 minutes after recorded 3.24PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average throughout Point 7 with 1.65PPN.

Figure 1-29 – Timings of Soprano Pipistrelle passes per night within Location Point 7



Location Point 8

1.2.147 A total of 1,986 Soprano Pipistrelle passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 53.68PPN. Soprano Pipistrelle activity within the month of July at Point 8 recorded the highest peak throughout all other locations with 104.16PPN presented in Table 1-33.



1.2.148 September recorded the second highest average with 83.25PPN whilst August recorded 77.83PPN. October recorded 52.00PPN whilst June recorded 32.00PPN. April recorded 17.00PPN while May recorded the lowest average at Point 8 with 0.80PPN.

Table 1-33 – Soprano Pipistrelle average PPN within Point 8 throughout all survey months

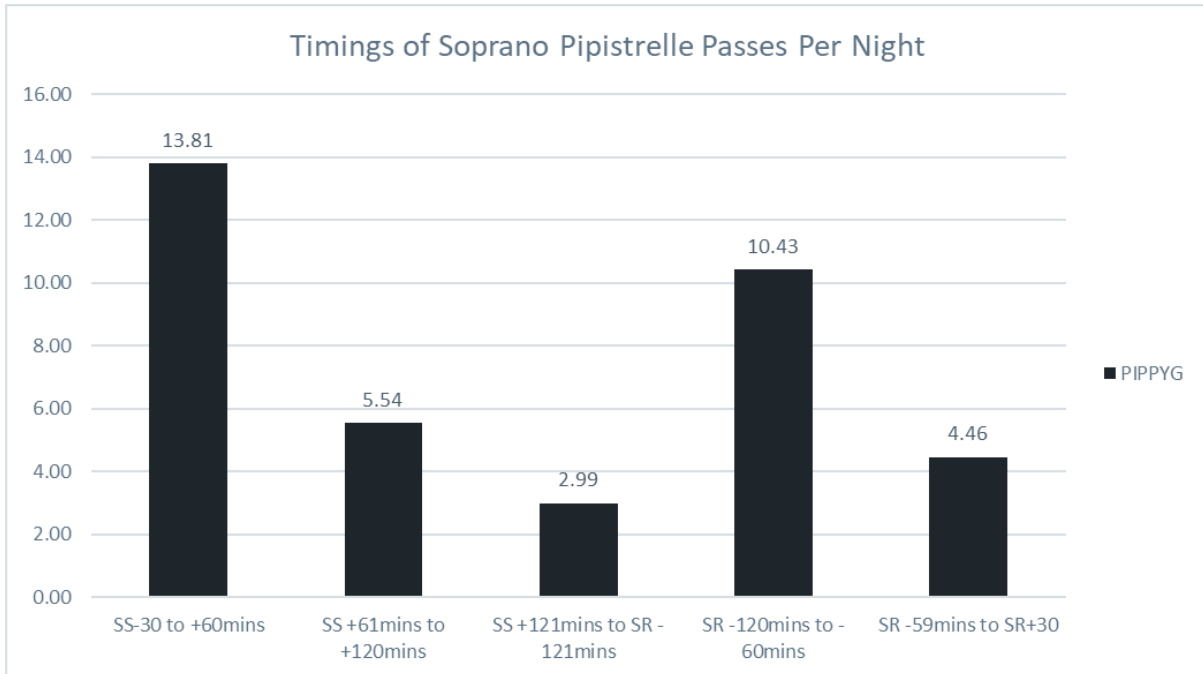
Month	April	May	June	July	August	September	October
Average PPN	17.00	0.80	32.00	104.16	77.83	83.25	52.00

1.2.149 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-30.

1.2.150 Activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 13.81PPN while 120 minutes before sunrise up to 60 minutes after recorded an average of 10.43PPN. 61 minutes before sunset up to 120 minutes after recorded an average of 5.54PPN whilst 59 minutes before sunrise up to 30 minutes after recorded 4.46PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average throughout Point 8 with 2.99PPN.



Figure 1-30 – Timings of Soprano Pipistrelle passes per night within Location Point 8



Location Point 9

1.2.151 A total of 3,282 Soprano Pipistrelle passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 86.37PPN.

1.2.152 Monthly activity levels are presented in Table 1-34.

1.2.153 Soprano Pipistrelle activity within the month of July at Point 9 recorded the highest peak throughout all other locations with 361.16PPN. June recorded the second highest average with 52.60PPN whilst October recorded 51.66PPN. September recorded 49.80PPN whilst August recorded 43.00PPN. April recorded the lowest average at Point 9 with 7.00PPN whilst the month of May recorded no soprano pipistrelle activity.

Table 1-34 – Soprano Pipistrelle average PPN within Point 9 throughout all survey months

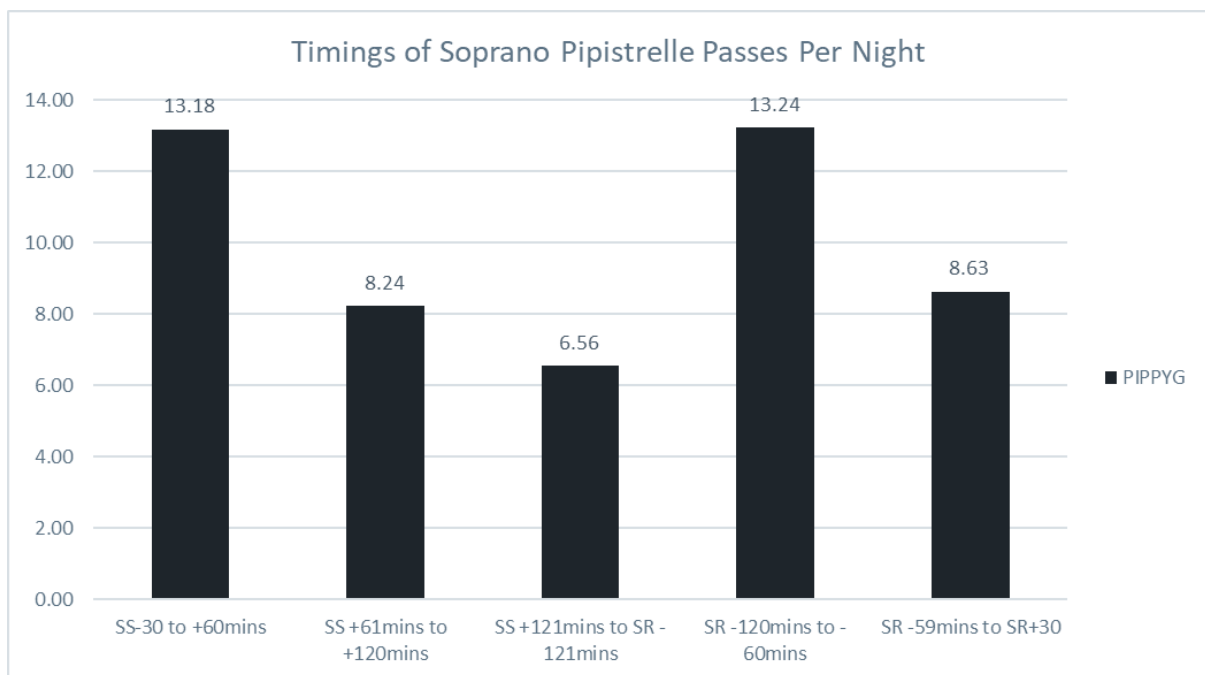
Month	April	May	June	July	August	September	October
Average PPN	7.00	0.00	52.60	361.16	43.00	49.80	51.66



1.2.154 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-31.

1.2.155 Activity peaked 120 minutes before sunrise up to 60 minutes after recorded an average of 13.24PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 13.18PPN. 59 minutes before sunrise up to 30 minutes after recorded 8.63PPN whilst 61 minutes before sunset up to 120 minutes after recorded an average of 8.24PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average throughout Point 9 with 6.56PPN.

Figure 1-31 – Timings of Soprano Pipistrelle passes per night within Location Point 9



Location Point 10

1.2.156 A total of 577 Soprano Pipistrelle passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 17.48PPN.

1.2.157 Monthly activity levels are presented in Table 1-35.

1.2.158 Soprano Pipistrelle activity within the month of October at Point 10 recorded the highest peak throughout all other locations with 72.66PPN. June



recorded the second highest average with 15.83PPN whilst September recorded the lowest average at Point 10 with 7.20PPN. The months of April, May, and August had no bat recordings.

Table 1-35 – Soprano Pipistrelle average PPN within Point 10 throughout all survey months

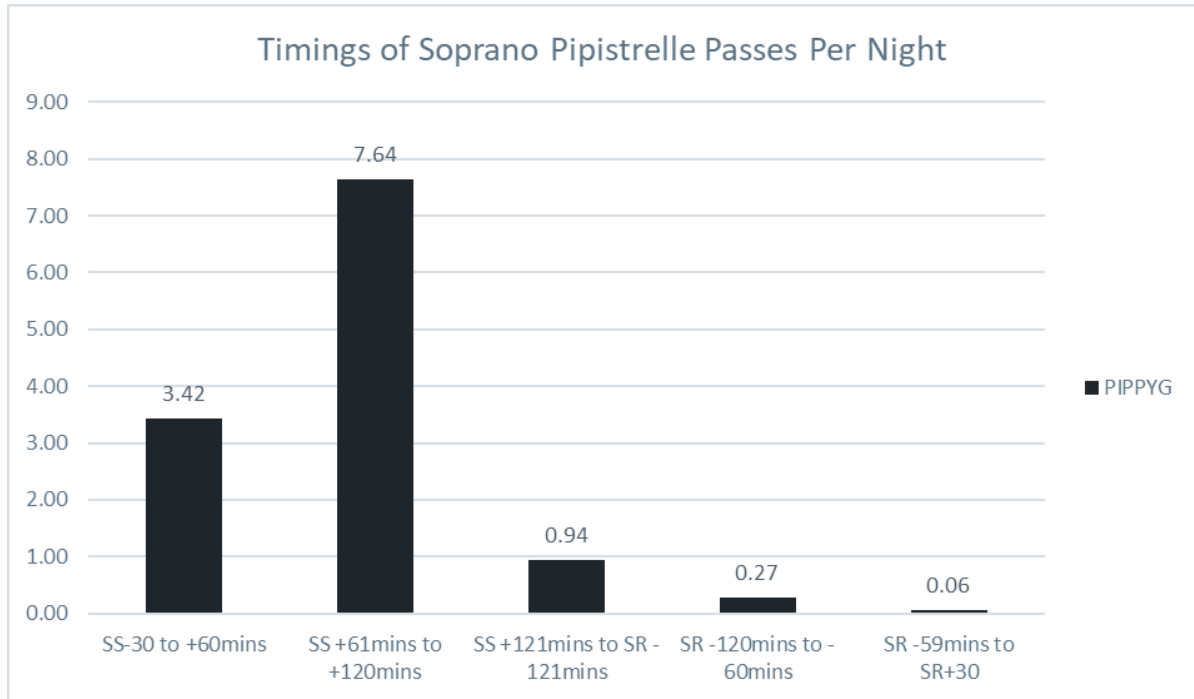
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	15.83	1.66	0.00	7.20	72.66

1.2.159 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-32.

1.2.160 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 7.64PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 3.42PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.94PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.27PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average throughout Point 10 with 0.06PPN.



Figure 1-32 – Timings of Soprano Pipistrelle passes per night within Location Point 10



Location Point 11

1.2.161 A total of 267 Soprano Pipistrelle passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 9.21PPN.

1.2.162 Monthly activity levels are presented in Table 1-36.

1.2.163 Soprano Pipistrelle activity within the month of June at Point 11 recorded the highest peak throughout all other locations with 20.66PPN. August recorded the second highest average with 12.50PPN whilst September recorded 7.40PPN. July recorded 4.66PPN whilst October recorded the lowest average at Point 11 with 0.50PPN. The months of April and May recorded no soprano pipistrelle activity.



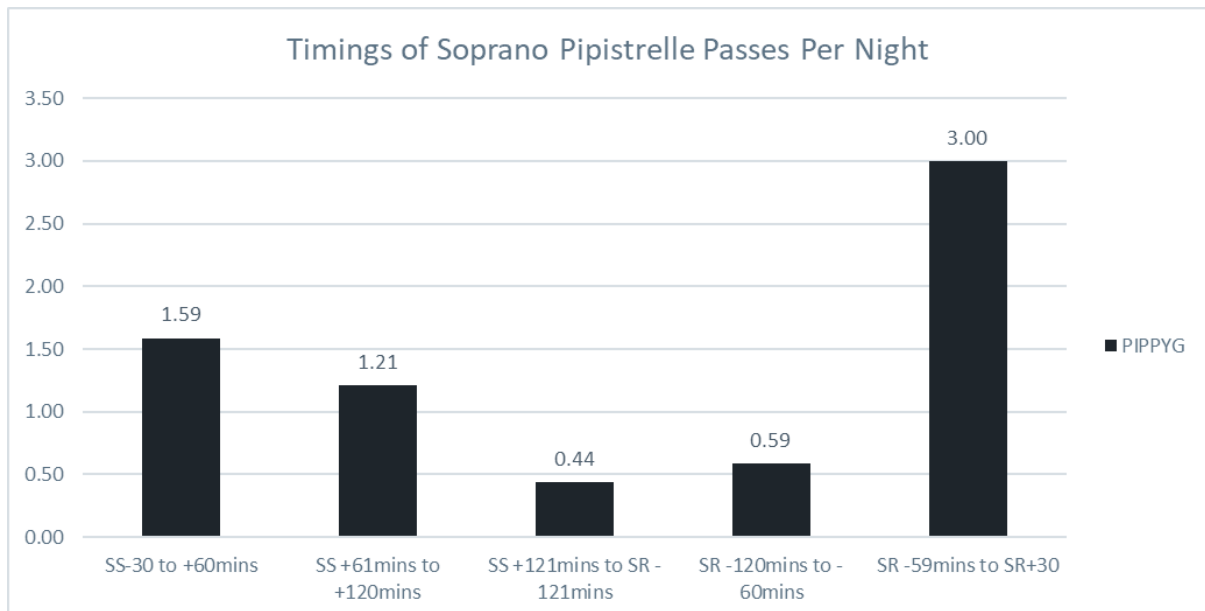
Table 1-36 – Soprano Pipistrelle average PPN within Point 11 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	20.66	4.66	12.50	7.40	0.50

1.2.164 Soprano Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-33.

1.2.165 Activity peaked 59 minutes before sunrise up to 30 minutes after recorded 3.00PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 1.59PPN. 61 minutes before sunset up to 120 minutes after recorded an average of 1.21PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.59PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average throughout Point 11 with 0.44PPN.

Figure 1-33 – Timings of Soprano Pipistrelle passes per night within Location Point 11





Nathusius' Pipistrelle

Location Point 1

1.2.166 A total of 30 Nathusius' Pipistrelle passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 0.91PPN.

1.2.167 Monthly activity levels are presented in Table 1-37.

1.2.168 Nathusius' Pipistrelle activity within the month of September at Point 1 recorded the highest peak throughout all other locations with 3.20PPN. July recorded the second highest average with 2.00PPN whilst June recorded 0.60PPN. August recorded the lowest average at Point 1 with 0.16PPN. The months of April, May, and October recorded no Nathusius' Pipistrelle activity.

Table 1-37 – Nathusius' Pipistrelle average PPN within Point 1 throughout all survey months

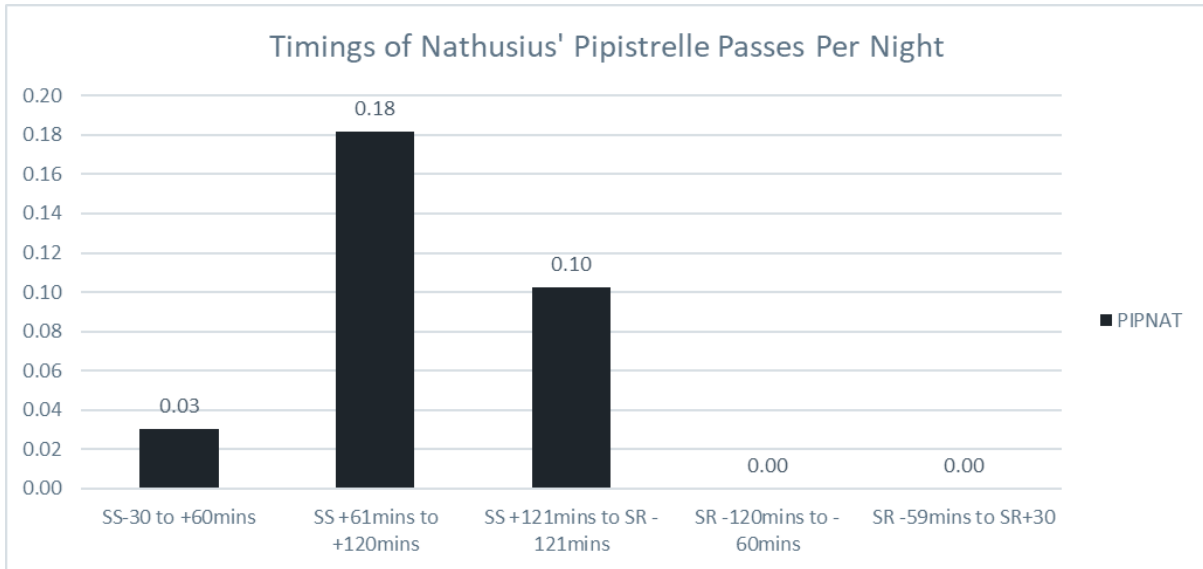
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.60	2.00	0.16	3.20	0.00

1.2.169 Nathusius' Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-34.

1.2.170 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 0.18PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.10PPN. 30 minutes before sunset and up to 60 minutes after recorded the lowest average throughout Point 1 with 0.03PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius' pipistrelle recordings.



Figure 1-34 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 1



Location Point 2

1.2.171 A total of six Nathusius’ Pipistrelle passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 0.16PPN.

1.2.172 Monthly activity levels are presented in Table 1-38.

1.2.173 Nathusius’ Pipistrelle activity within the month of June at Point 2 recorded the highest peak throughout all other locations with 0.80PPN. September and April recorded the same average of 0.20PPN. The months of May, July, August, and October recorded no Nathusius’ Pipistrelle activity.

Table 1-38 – Nathusius’ Pipistrelle average PPN within Point 2 throughout all survey months

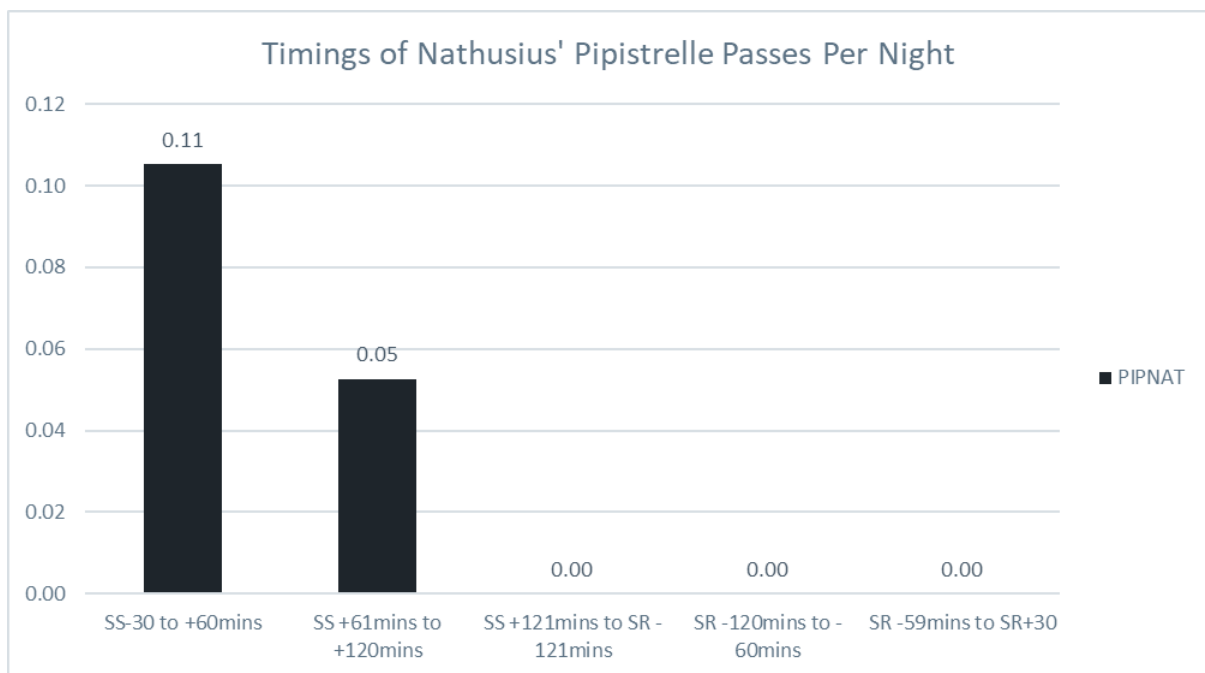
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.00	0.80	0.00	0.00	0.20	0.00

1.2.174 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-35.



1.2.175 Activity peaked 30 minutes before sunset and up to 60 minutes after with an average of 0.11PPN. 61 minutes before sunset up to 120 minutes after recorded the lowest average throughout Point 2 with 0.05PPN. Notably, 121 minutes after sunset and up to 121 minutes after sunrise, 120 minutes before sunrise up to 60 minutes after, and 59 minutes before sunrise up to 30 minutes after had no Nathusius' Pipistrelle recordings.

Figure 1-35 – Timings of Nathusius' Pipistrelle passes per night within Location Point 2



Location Point 3

1.2.176 A total of nine Nathusius' Pipistrelle passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 0.24PPN.

1.2.177 Monthly activity levels are presented in Table 1-39.

1.2.178 Nathusius' Pipistrelle activity within the month of July at Point 3 recorded the highest peak throughout all other locations with 1.33PPN. The month of June is the only other month within Point 3 where Nathusius' Pipistrelles were recorded which resulted in a 0.20PPN. The months of April, May, August, September, and October recorded no Nathusius' Pipistrelle activity.



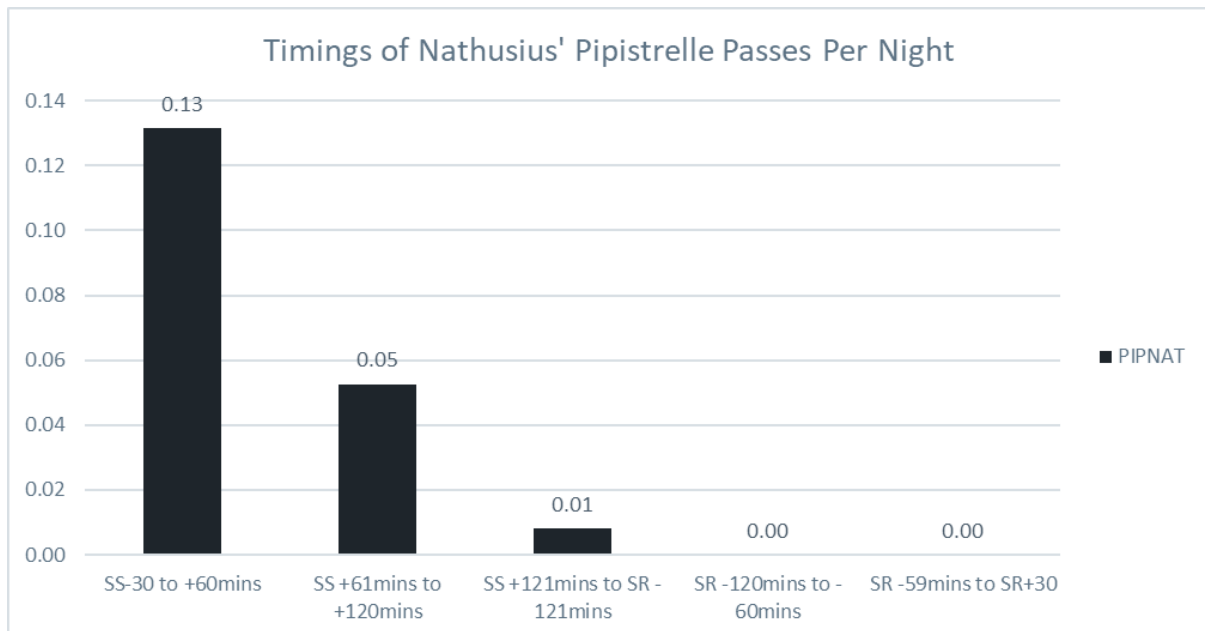
Table 1-39 – Nathusius’ Pipistrelle average PPN within Point 3 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.20	1.33	0.00	0.00	0.00

1.2.179 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-36.

1.2.180 Activity peaked 30 minutes before sunset and up to 60 minutes after with an average of 0.13PPN whilst 61 minutes before sunset up to 120 minutes after recorded an average of 0.05PPN. 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 3 with 0.01PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius’ Pipistrelle recordings.

Figure 1-36 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 3





Location Point 4

1.2.181 A total of 23 Nathusius’ Pipistrelle passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 0.61PPN.

1.2.182 Monthly activity levels are presented in Table 1-40.

1.2.183 Nathusius’ Pipistrelle activity within the month of May at Point 4 recorded the highest peak throughout all other locations with 3.00PPN. July recorded the second highest average with 0.83PPN whilst September recorded 0.40PPN. April recorded the lowest average at Point 4 with 0.20PPN while the months of June, August, and September recorded no Nathusius’ Pipistrelle activity.

Table 1-40 – Nathusius’ Pipistrelle average PPN within Point 4 throughout all survey months

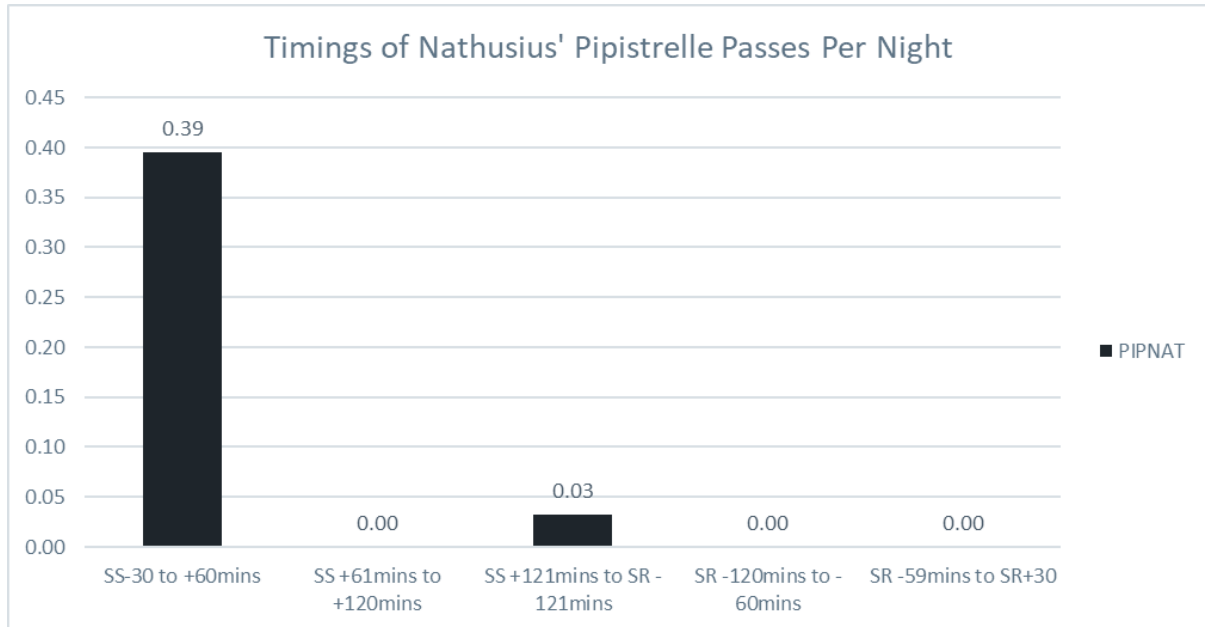
Month	April	May	June	July	August	September	October
Average PPN	0.20	3.00	0.00	0.83	0.00	0.40	0.00

1.2.184 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-37.

1.2.185 Activity peaked 30 minutes before sunset and up to 60 minutes after with an average of 0.39PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 4 with 0.01PPN. Notably, 61 minutes before sunset up to 120 minutes after, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius’ Pipistrelle recordings.



Figure 1-37 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 4



Location Point 5

1.2.186 A total of 27 Nathusius’ Pipistrelle passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 0.71PPN.

1.2.187 Monthly activity levels are presented in Table 1-41.

1.2.188 Nathusius’ Pipistrelle activity within the month of June at Point 5 recorded the highest peak throughout all other locations with 2.40PPN. October recorded the second highest average with 1.16PPN whilst September recorded 1.00PPN. April and May recorded the same average of 0.20PPN whilst July recorded the lowest average at Point 5 with 0.16PPN. August recorded no Nathusius’ Pipistrelle activity.

Table 1-41 – Nathusius’ Pipistrelle average PPN within Point 5 throughout all survey months

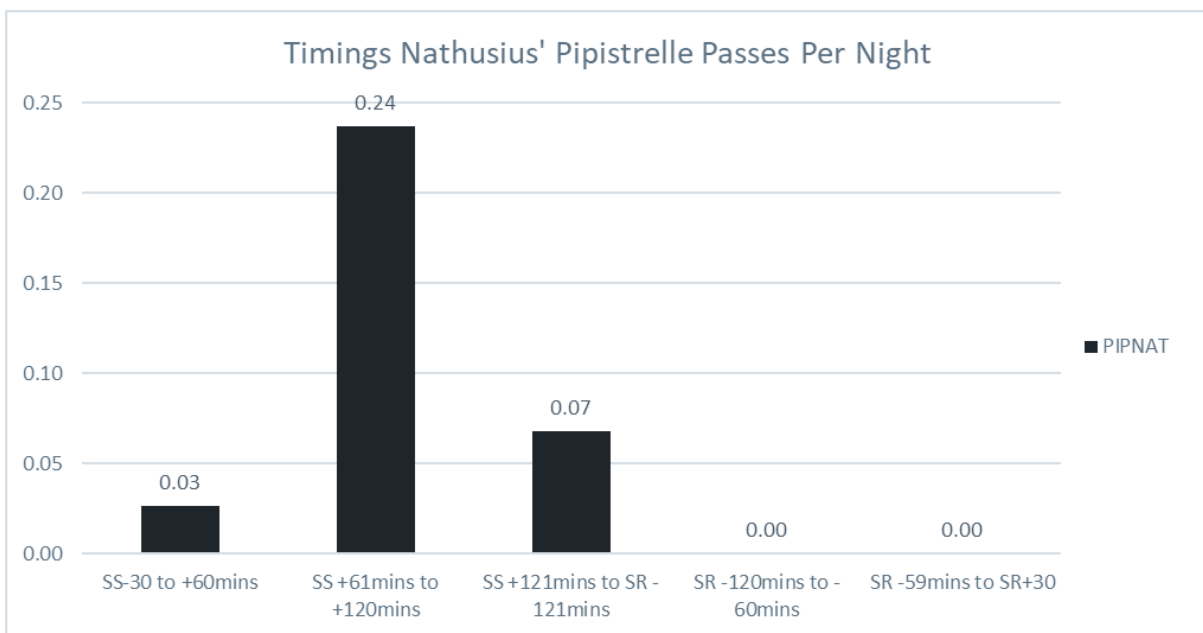
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.20	2.40	0.16	0.00	1.00	1.16



1.2.189 Nathusius' Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-38.

1.2.190 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 0.24PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise record an average of 0.07PPN. 30 minutes before sunset and up to 60 minutes after record the lowest average throughout Point 5 with 0.03PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius' Pipistrelle recordings.

Figure 1-38 – Timings of Nathusius' Pipistrelle passes per night within Location Point 5



Location Point 6

1.2.191 A total of ten Nathusius' Pipistrelle passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 0.26PPN.

1.2.192 Monthly activity levels are presented in Table 1-42.

1.2.193 Nathusius' Pipistrelle activity within the month of June at Point 6 recorded the highest peak throughout all other locations with 1.20PPN. September



recorded the second highest average with 0.40PPN whilst July and September recorded the same average of 0.16PPN. April, May, and August recorded no Nathusius' Pipistrelle activity.

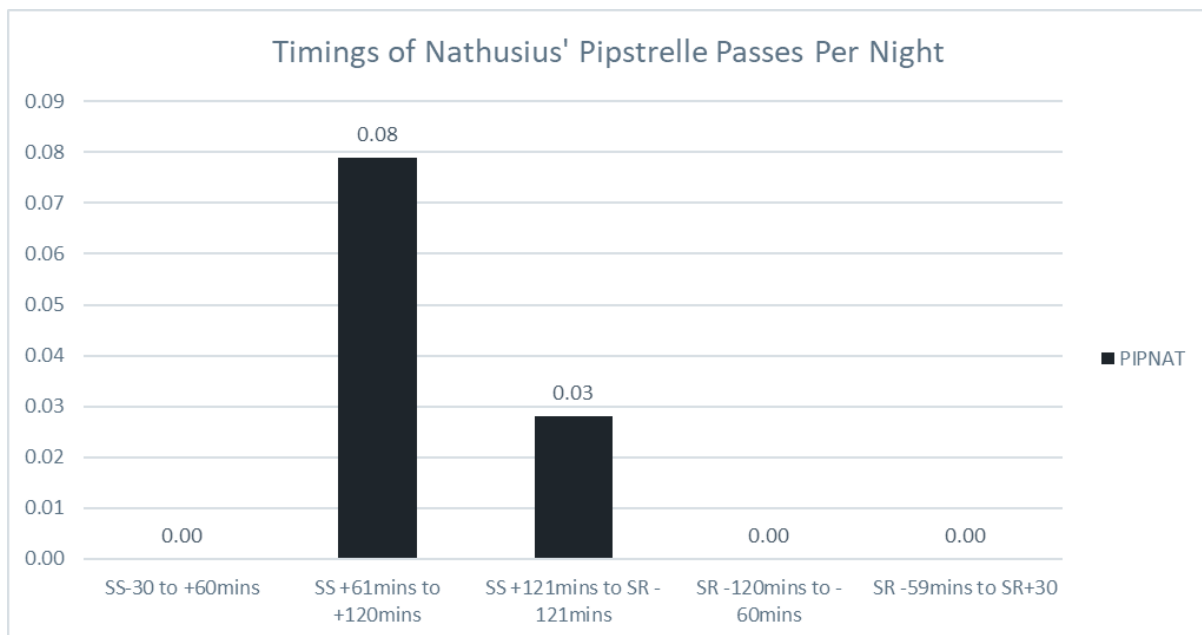
Table 1-42 – Nathusius' Pipistrelle average PPN within Point 6 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	1.20	0.16	0.00	0.40	0.16

1.2.194 Nathusius' Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-39.

1.2.195 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 0.08PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 6 with 0.03PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius' Pipistrelle recordings.

Figure 1-39 – Timings of Nathusius' Pipistrelle passes per night within Location Point 6





Location Point 7

1.2.196 A total of one Nathusius’ Pipistrelle passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 0.03PPN. Nathusius’ pipistrelles were only present within the month of June resulting in an average of 0.20PPN presented in Table 1-43. No other PPN were recorded throughout Point 7.

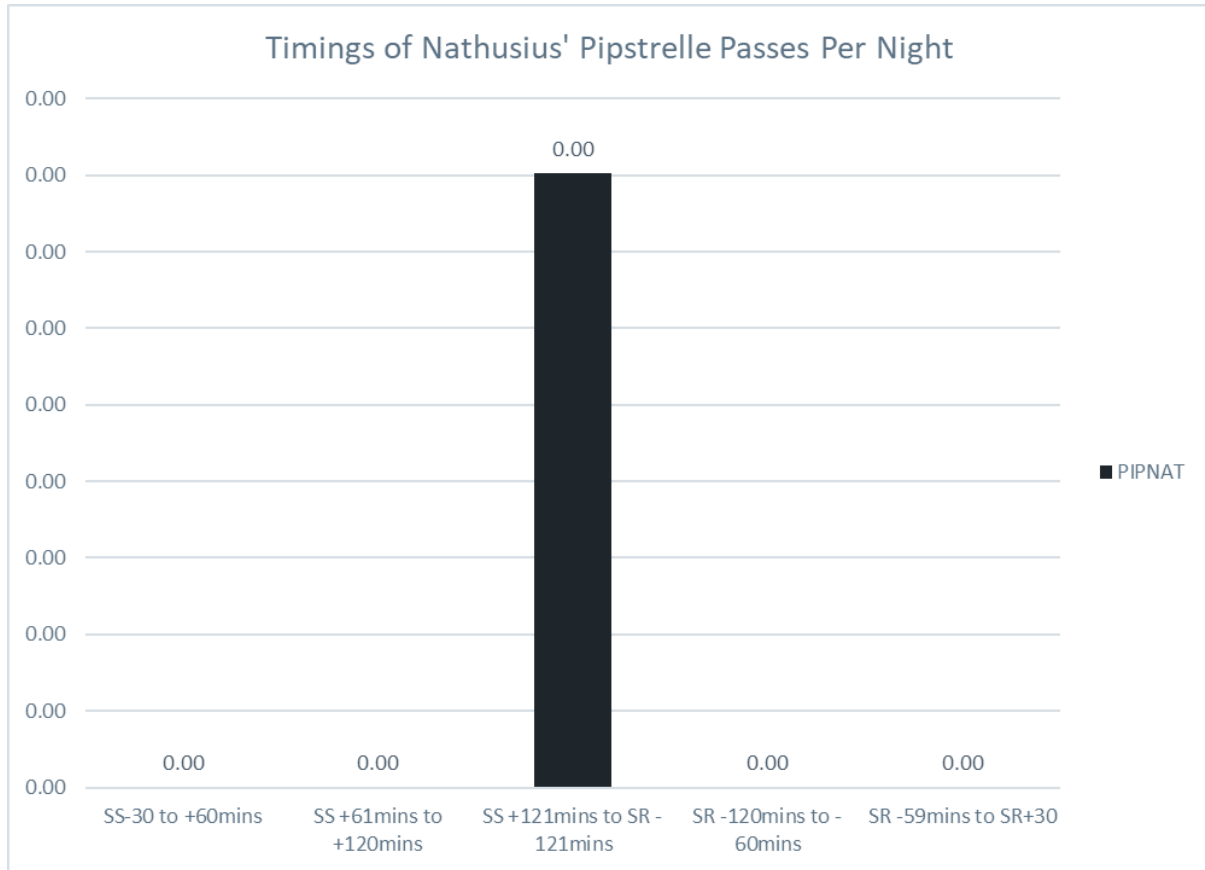
Table 1-43 – Nathusius’ Pipistrelle average PPN within Point 7 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.20	0.00	0.00	0.00	0.00

1.2.197 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-40. Activity was only recorded for the species at 121 minutes after sunset and up to 121 minutes after sunrise with low activity numbers (<0.01PPN), no other data was recorded.



Figure 1-40 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 7



Location Point 8

1.2.198 A total of 11 Nathusius’ Pipistrelle passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 0.30PPN.

1.2.199 Monthly activity levels are presented in Table 1-44. Nathusius’ Pipistrelle activity within the month of June at Point 8 recorded the highest peak throughout all other locations with 0.60PPN. June and October recorded the same average with 0.50PPN whilst September recorded 0.25PPN. May recorded the lowest average at Point 8 with 0.20PPN, April and July recorded no Nathusius’ Pipistrelle activity.



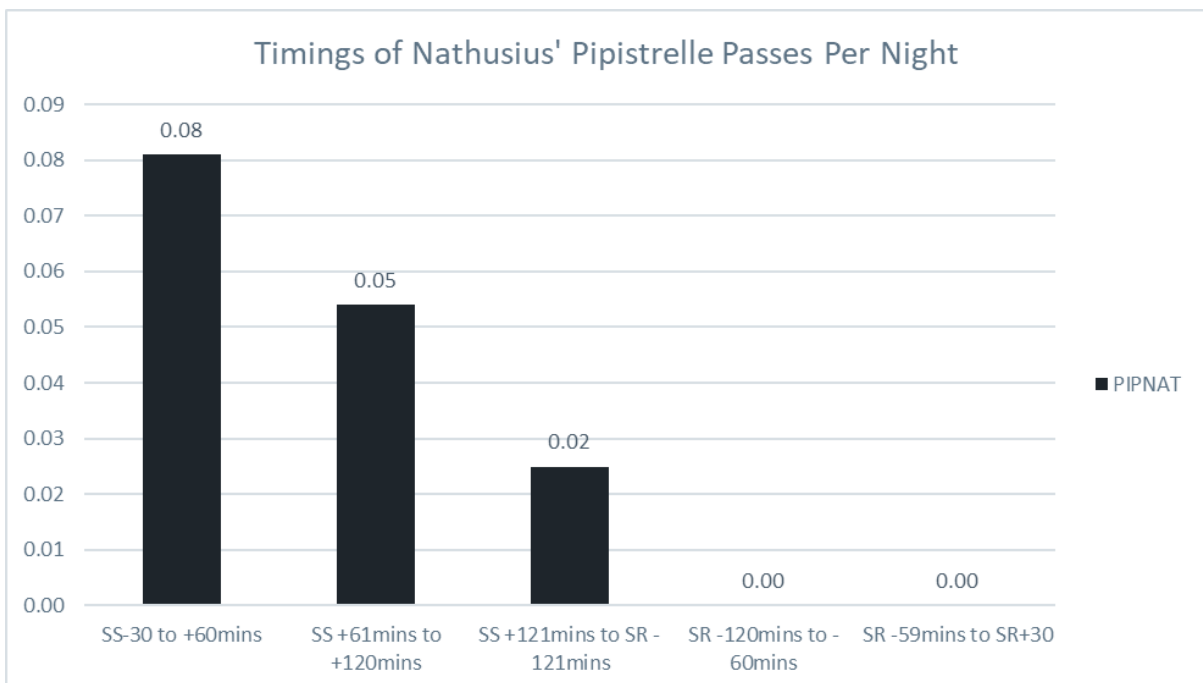
Table 1-44 – Nathusius’ Pipistrelle average PPN within Point 8 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.60	0.00	0.50	0.25	0.50

1.2.200 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-41.

1.2.201 Activity peaked 30 minutes before sunset and up to 60 minutes after recorded 0.08PPN whilst 61 minutes before sunset up to 120 minutes after recorded an average of 0.05PPN. 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 8 with 0.02PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius’ Pipistrelle recordings.

Figure 1-41 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 8





Location Point 9

1.2.202 A total of nine Nathusius’ Pipistrelle passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 0.24PPN.

1.2.203 Monthly activity levels are presented in Table 1-45. Nathusius’ Pipistrelle activity within the month of July at Point 9 recorded the highest peak throughout all other locations with 0.66PPN. June recorded the second highest average with 0.40PPN whilst August recorded 0.33PPN. May recorded the lowest average within Point 9 with 0.20PPN. April, September, and October recorded no Nathusius’ Pipistrelle activity.

Table 1-45 – Nathusius’ Pipistrelle average PPN within Point 9 throughout all survey months

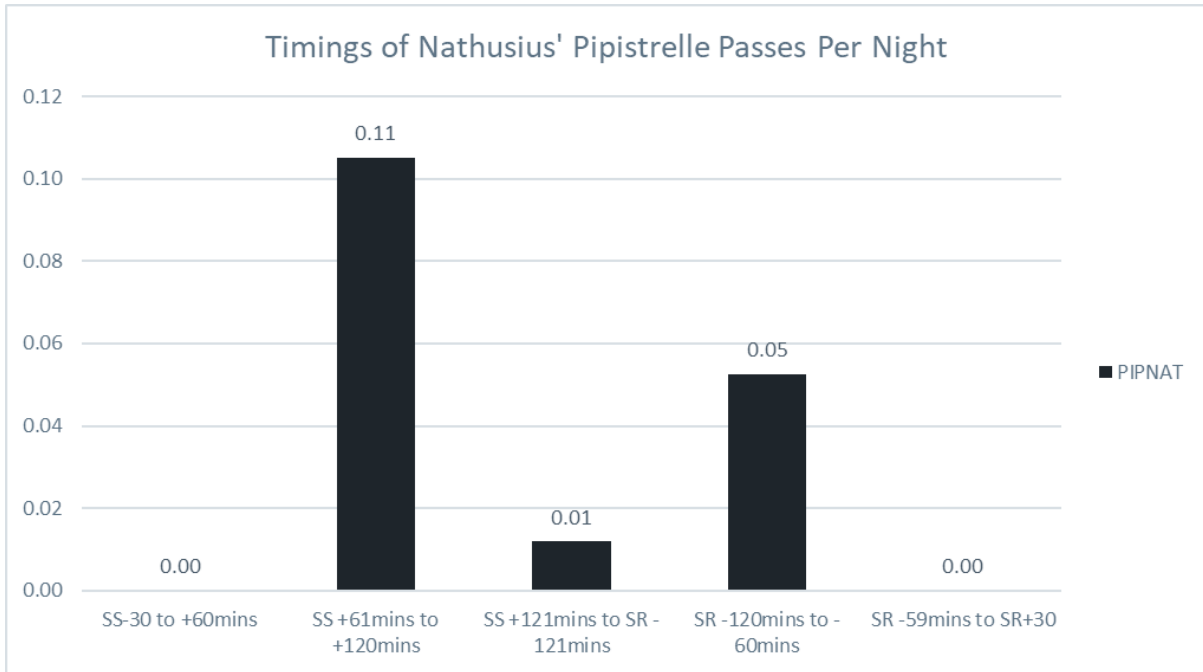
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.40	0.66	0.33	0.00	0.00

1.2.204 Nathusius’ Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-42.

1.2.205 Activity peaked 61 minutes before sunset up to 120 minutes after recorded an average of 0.11PPN whilst 120 minutes before sunrise up to 60 minutes after recorded 0.05PPN. 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 9 with 0.01PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no Nathusius’ Pipistrelle recordings.



Figure 1-42 – Timings of Nathusius’ Pipistrelle passes per night within Location Point 9



Location Point 10

1.2.206 A total of ten Nathusius’ Pipistrelle passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 0.30PPN.

1.2.207 Monthly activity levels are presented in Table 1-46.

1.2.208 Nathusius’ Pipistrelle activity within the month of June at Point 10 recorded the highest peak throughout all other locations with 0.83PPN. July recorded the second highest average with 0.66PPN whilst October recorded the lowest average within Point 10 with 0.16PPN. April, May, August, and September recorded no Nathusius’ Pipistrelle activity.

Table 1-46 – Nathusius’ Pipistrelle average PPN within Point 10 throughout all survey months

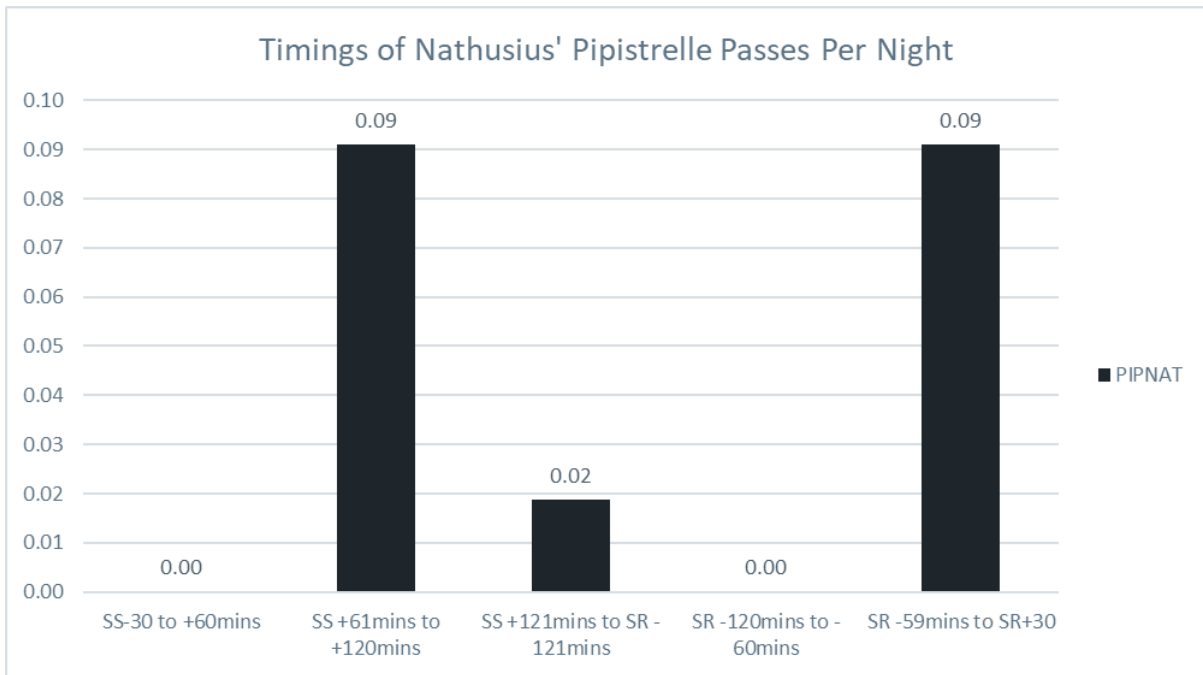
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.83	0.66	0.00	0.00	0.16



1.2.209 Nathusius' Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-43.

1.2.210 Activity for 61 minutes before sunset up to 120 minutes after and 59 minutes before sunrise up to 30 minutes recorded the same peak average of 0.09PPN. 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 10 with 0.02PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after had no Nathusius' Pipistrelle recordings.

Figure 1-43 – Timings of Nathusius' Pipistrelle passes per night within Location Point 10



Location Point 11

1.2.211 A total of five Nathusius' Pipistrelle passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 0.17PPN.

1.2.212 Monthly activity levels are presented in Table 1-47.

1.2.213 Nathusius' Pipistrelle activity within the month of June at Point 11 recorded the highest peak throughout all other locations with 0.66PPN August recorded



the lowest average within Point 11 with 0.16PPN whilst April, May, July, September, and October recorded no Nathusius' Pipistrelle activity.

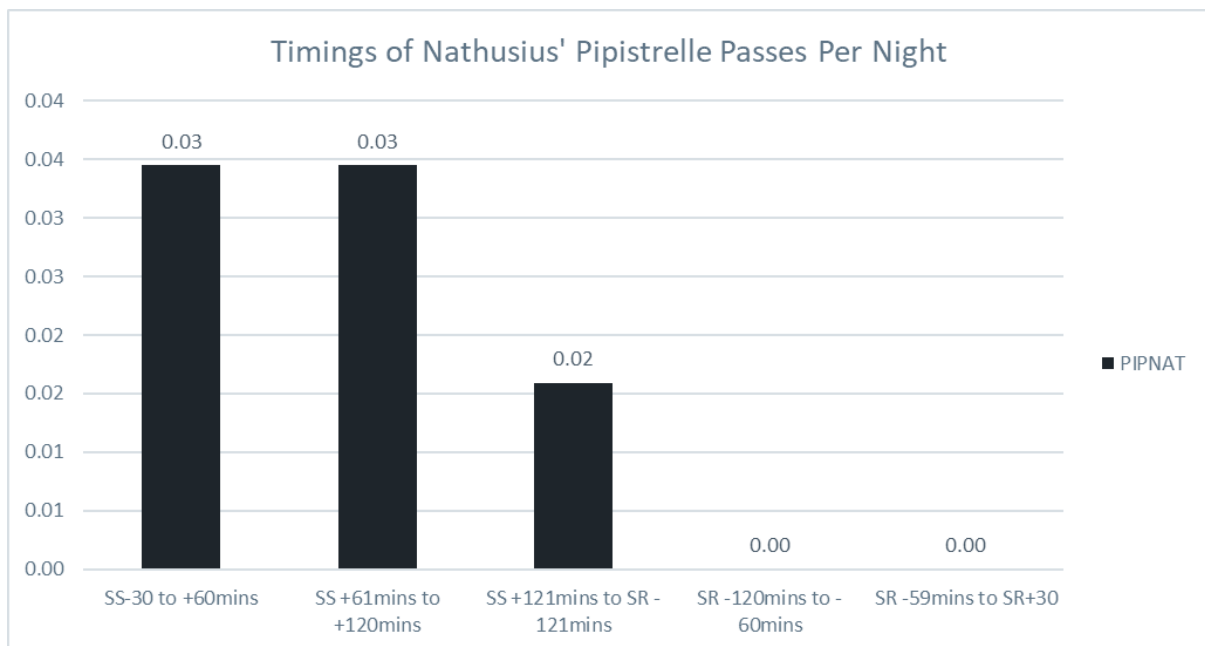
Table 1-47 – Nathusius' Pipistrelle average PPN within Point 11 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.66	0.00	0.16	0.00	0.00

1.2.214 Nathusius' Pipistrelle activity was recorded on the static detectors at varying times presented in Figure 1-44.

1.2.215 Activity for 30 minutes before sunset and up to 60 minutes after and 61 minutes before sunset up to 120 minutes after recorded the same peak average of 0.03PPN. 121 minutes after sunset and up to 121 minutes after sunrise record the lowest average throughout Point 11 with 0.02PPN. 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes had no Nathusius' Pipistrelle recordings.

Figure 1-44 – Timings of Nathusius' Pipistrelle passes per night within Location Point 11





Myotis species

Location Point 1

1.2.216 A total of 36 *Myotis* species passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 1.09PPN.

1.2.217 Monthly activity levels are presented in Table 1-48.

1.2.218 *Myotis* species activity within the month of October at Point 1 recorded the highest peak throughout all other locations with 2.66PPN. June recorded the second highest average with 2.00PPN whilst August recorded an average of 1.00PPN. July record 0.60PPN, April recorded the lowest average within Point 1 with 0.20PPN. May and September recorded no *Myotis* species activity.

Table 1-48 – *Myotis* species average PPN within Point 1 throughout all survey months

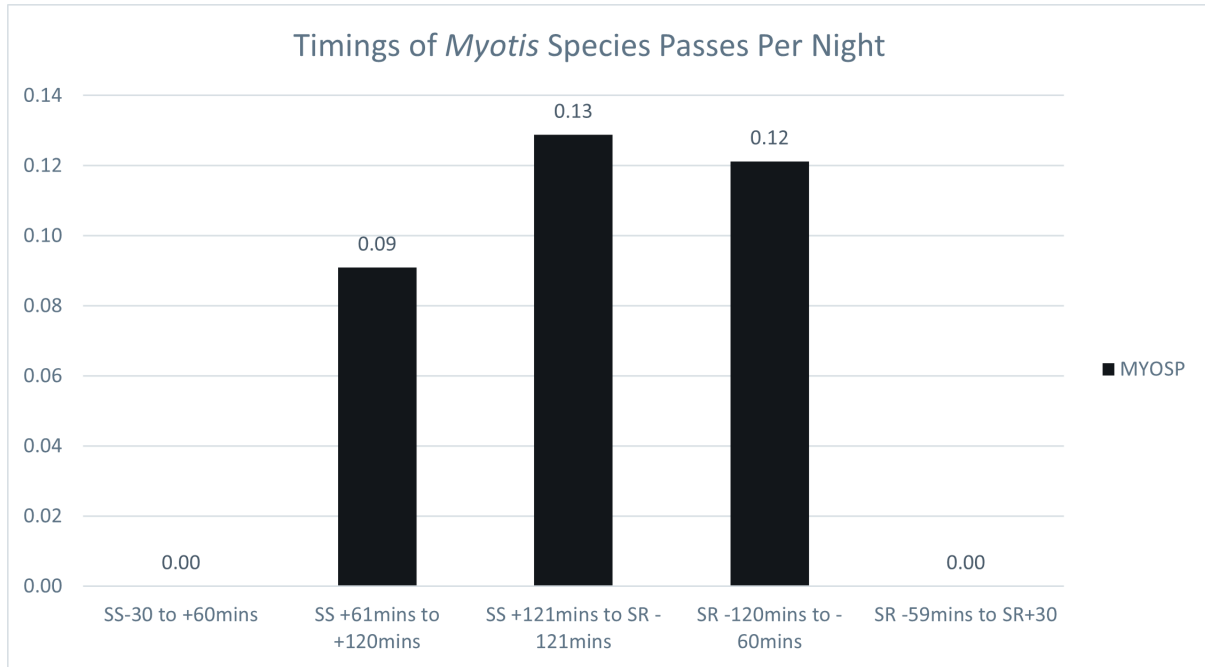
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.00	2.00	0.60	1.00	0.00	2.66

1.2.219 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-45.

1.2.220 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.13PPN whilst 120 minutes before sunrise up to 60 minutes after recorded 0.12PPN. 61 minutes before sunset up to 120 minutes after recorded the lowest average throughout Point 1 with 0.09PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after had no *Myotis* species recordings.



Figure 1-45 – Timings of *Myotis* species passes per night within Location Point 1



Location Point 2

1.2.221 A total of 46 *Myotis* species passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 1.21PPN.

1.2.222 Monthly activity levels are presented in Table 1-49.

1.2.223 *Myotis* species activity within the month of August at Point 2 recorded the highest peak throughout all other locations with 3.00PPN. October recorded the second highest average with 1.16PPN whilst May, July, and September recorded the same average of 1.00PPN. June record 0.60PPN, April recorded the lowest average within Point 2 with 0.40PPN.

Table 1-49 – *Myotis* species average PPN within Point 2 throughout all survey months

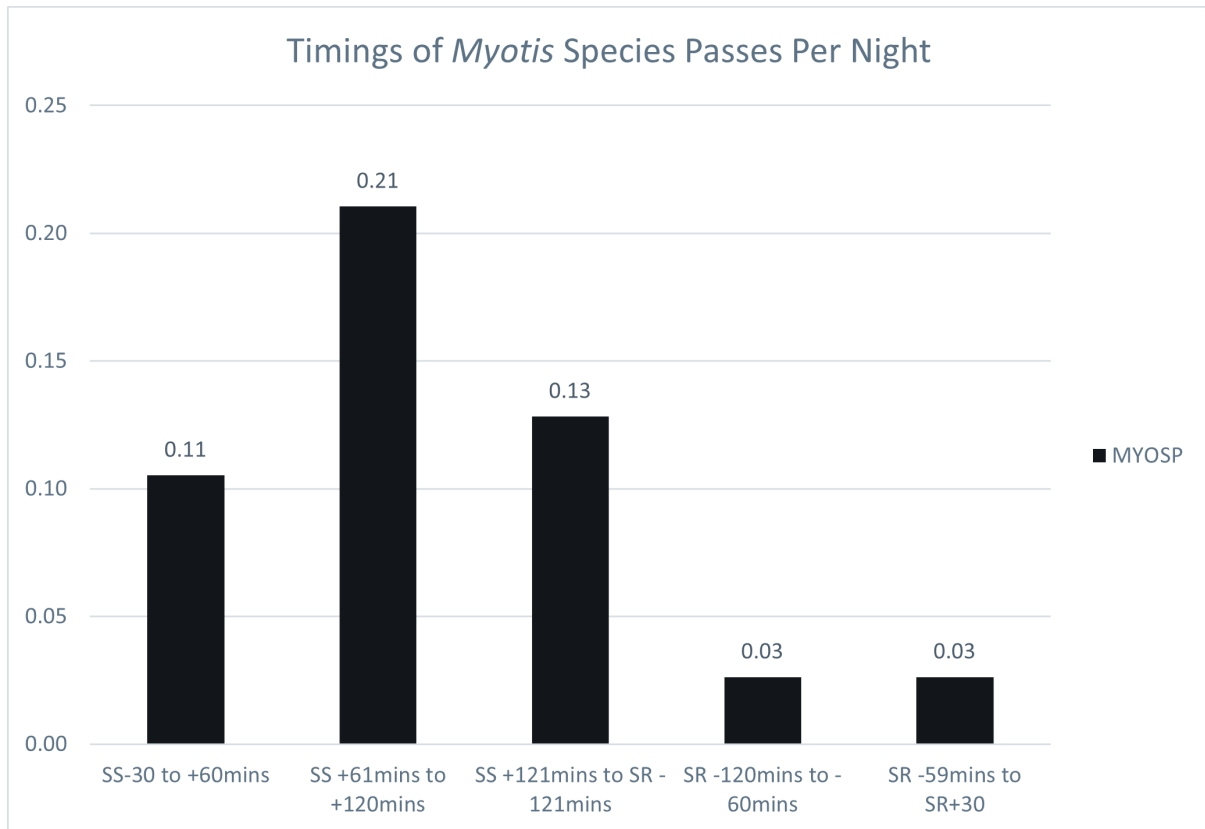
Month	April	May	June	July	August	September	October
Average PPN	0.40	1.00	0.60	1.00	3.00	1.00	1.16



1.2.224 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-46.

1.2.225 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.21PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.13PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 0.11PPN whilst the lowest average was recorded 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after with 0.03PPN.

Figure 1-46 – Timings of *Myotis* species passes per night within Location Point 2



Location Point 3

1.2.226 A total of 72 *Myotis* species passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 1.89PPN.

1.2.227 Monthly activity levels are presented in Table 1-50.



1.2.228 *Myotis* species activity within the month of June at Point 3 recorded the highest peak throughout all other locations with 6.40PPN. August recorded the second highest average with 2.33PPN whilst October recorded the average of 1.50PPN. July recorded 1.33PPN while April recorded 1.20PPN. September recorded 0.40PPN, whilst May recorded the lowest average within Point 3 with 0.20PPN.

Table 1-50 – *Myotis* species average PPN within Point 3 throughout all survey months

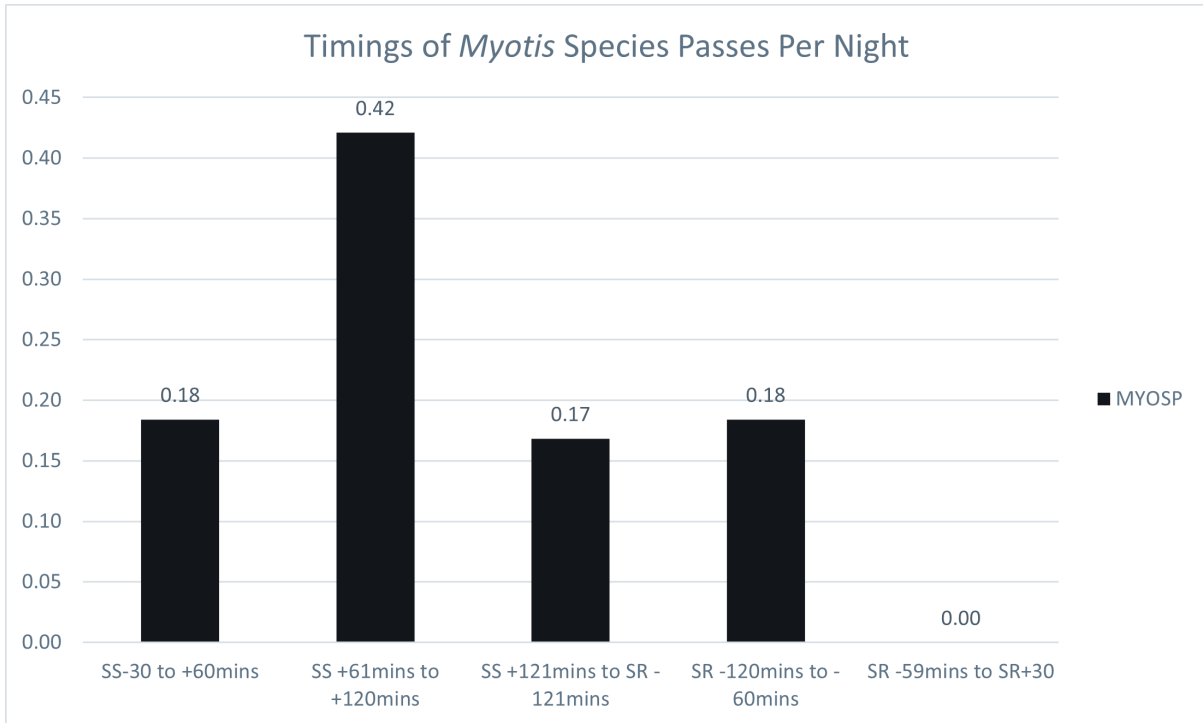
Month	April	May	June	July	August	September	October
Average PPN	1.20	0.20	6.40	1.33	2.33	0.40	1.50

1.2.229 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-47.

1.2.230 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.42PPN while 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after recorded the same average of 0.18PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average within Point 3 with 0.17PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no *Myotis* species activity.



Figure 1-47 – Timings of *Myotis* species passes per night within Location Point 3



Location Point 4

1.2.231 A total of 60 *Myotis* species passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 1.58PPN.

1.2.232 Monthly activity levels are presented in Table 1-51.

1.2.233 *Myotis* species activity within the month of August at Point 4 recorded the highest peak throughout all other locations with 4.16PPN September recorded the second highest average with 2.60PPN whilst July recorded the average of 1.50PPN. June and October recorded the same average of 1.00PPN whilst April and May recorded the lowest average within Point 4 with 0.20PPN.

Table 1-51 – *Myotis* species average PPN within Point 4 throughout all survey months

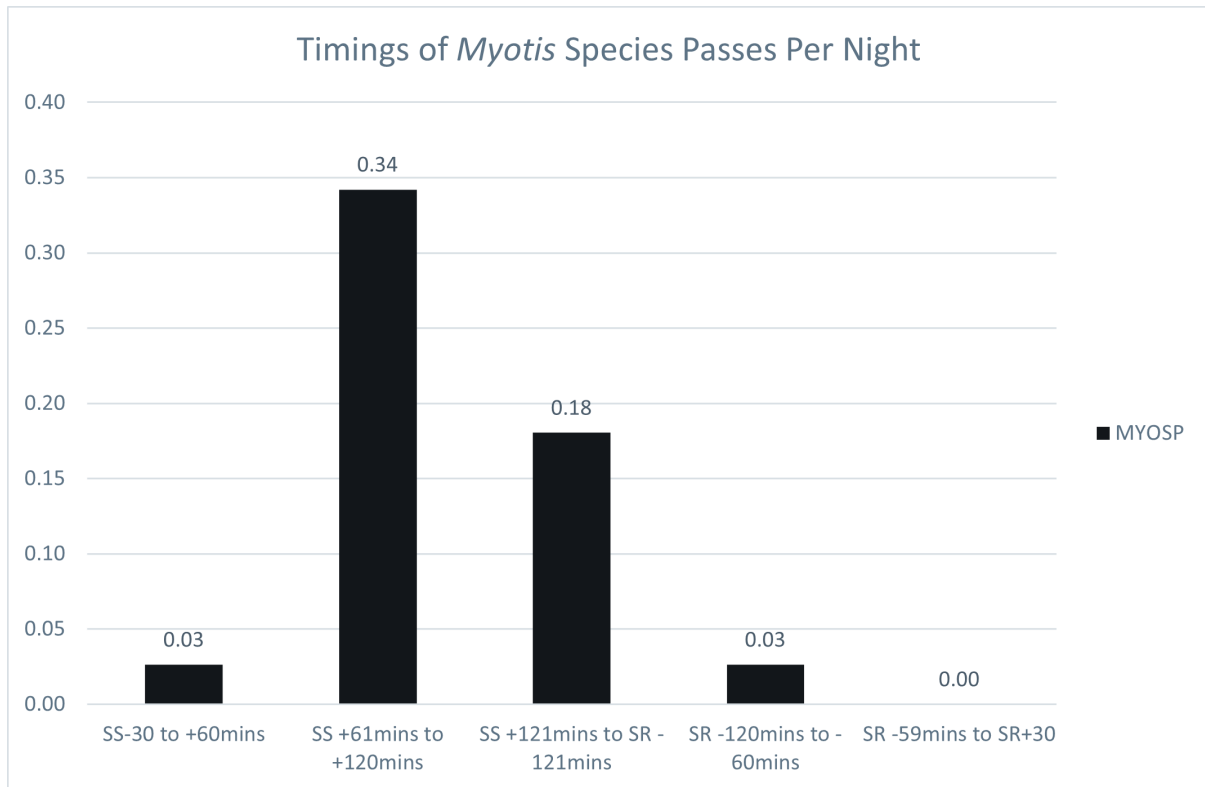
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.20	1.00	1.50	4.16	2.60	1.00



1.2.234 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-48.

1.2.235 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.34PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.18PPN. 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after recorded the same average of 0.03PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no *Myotis* species activity.

Figure 1-48 – Timings of *Myotis* species passes per night within Location Point 4



Location Point 5

1.2.236 A total of 114 *Myotis* species passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 3.00PPN.

1.2.237 Monthly activity levels are presented in Table 1-52.

1.2.238 *Myotis* species activity within the month of September at Point 5 recorded the highest peak throughout all other locations with 7.80PPN August recorded the



second highest average with 6.16PPN whilst July recorded the average of 3.66PPN. October recorded the average of 1.16PPN whilst April recorded 1.00PPN. June recorded the lowest average within Point 5 with 0.80PPN, the month of May recorded no *Myotis* species activity.

Table 1-52 – *Myotis* species average PPN within Point 5 throughout all survey months

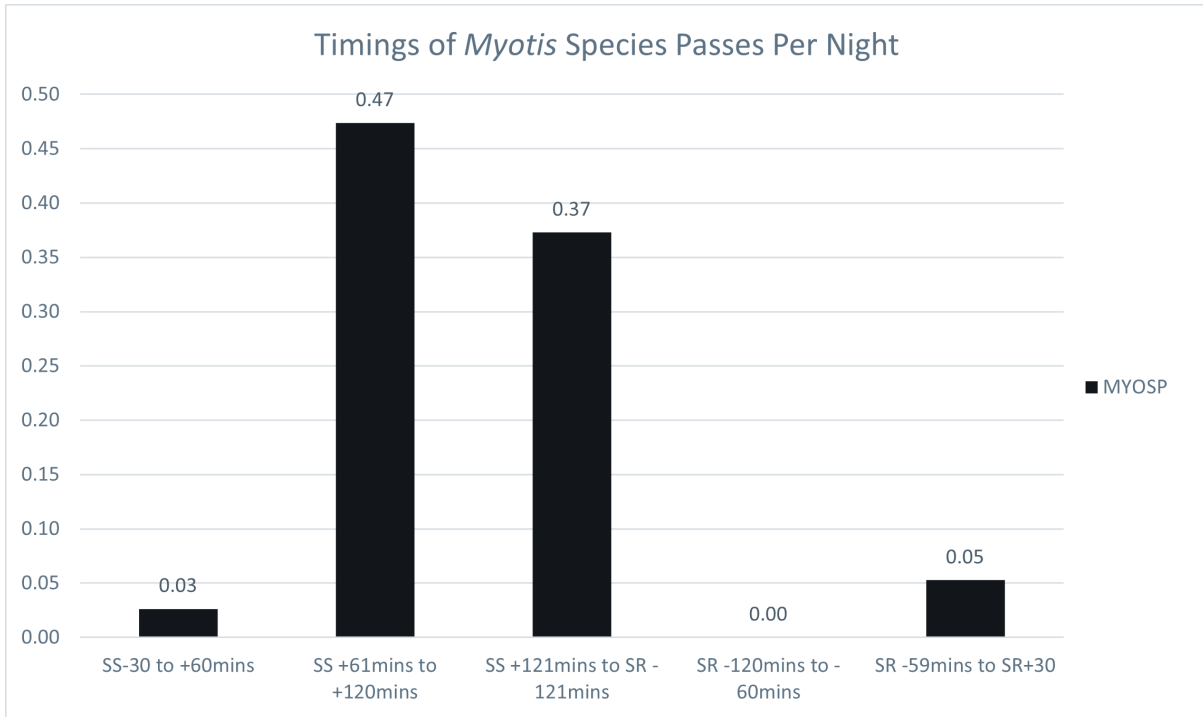
Month	April	May	June	July	August	September	October
Average PPN	1.00	0.00	0.80	3.66	6.16	7.80	1.16

1.2.239 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-49.

1.2.240 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.47PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.37PPN. 59 minutes before sunrise up to 30 minutes after recorded 0.05PPN whilst 30 minutes before sunset and up to 60 minutes after recorded the lowest average within Point 5 with 0.03PPN. Notably, 120 minutes before sunrise up to 60 minutes after recorded no *Myotis* species activity.



Figure 1-49 – Timings of *Myotis* species passes per night within Location Point 5



Location Point 6

1.2.241 A total of 16 *Myotis* species passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 0.42PPN.

1.2.242 Monthly activity levels are presented in Table 1-53.

1.2.243 *Myotis* species activity within the month of October at Point 6 recorded the highest peak throughout all other locations with 0.83PPN. July and August recorded the second highest average with 0.50PPN whilst June and September recorded the average of 0.40PPN. May recorded the lowest average within Point 6 with 0.20PPN, the month of April recorded no *Myotis* species activity.

Table 1-53 – *Myotis* species average PPN within Point 6 throughout all survey months

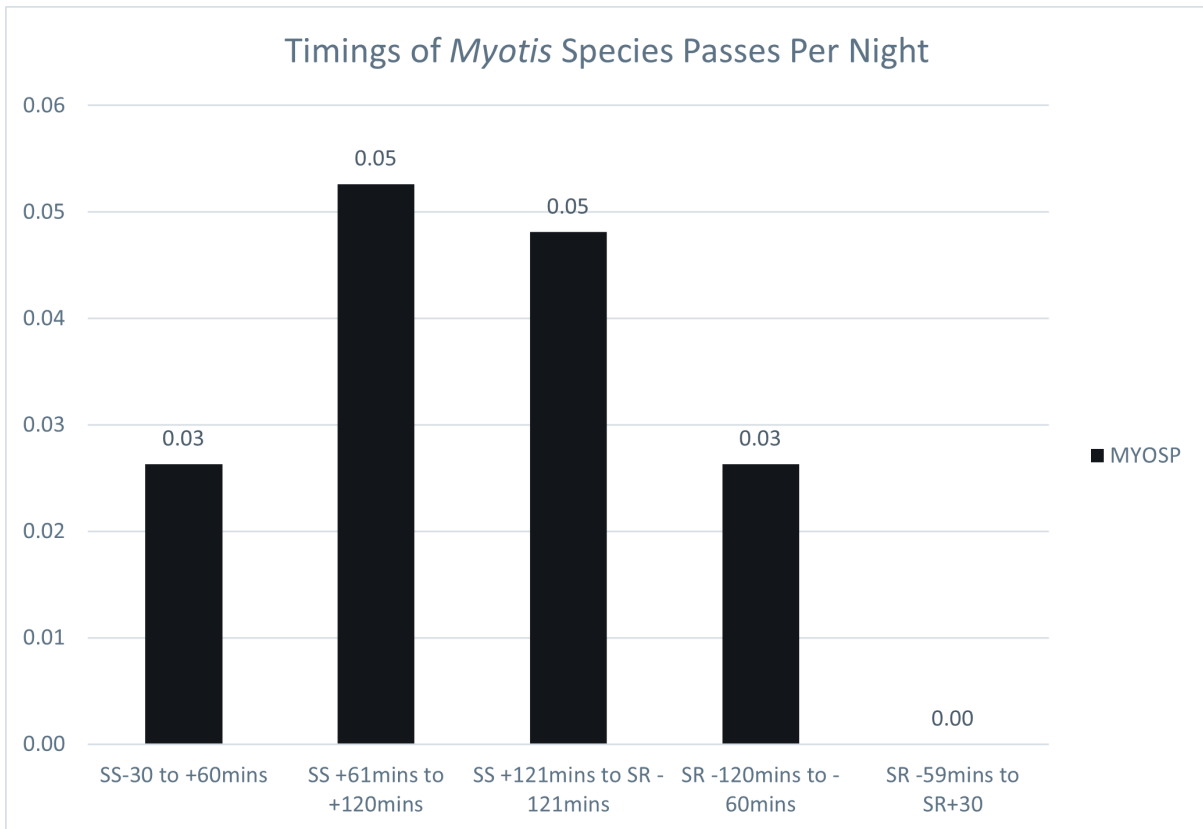
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.40	0.50	0.50	0.40	0.83



1.2.244 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-50.

1.2.245 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.05PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.05PPN. 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after recorded the same the average of 0.03PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no *Myotis* species activity.

Figure 1-50 – Timings of *Myotis* species passes per night within Location Point 6



Location Point 7

1.2.246 A total of 47 *Myotis* species passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 1.24PPN.

1.2.247 Monthly activity levels are presented in Table 1-54.



1.2.248 *Myotis* species activity within the month of August at Point 7 recorded the highest peak throughout all other locations with 3.50PPN October recorded the second highest average with 2.00PPN whilst September recorded the average of 1.40PPN. June recorded 0.60PPN and July recorded 0.50PPN. May recorded the lowest average within Point 7 with 0.20PPN, the month of April recorded no *Myotis* species activity.

Table 1-54 – *Myotis* species average PPN within Point 7 throughout all survey months

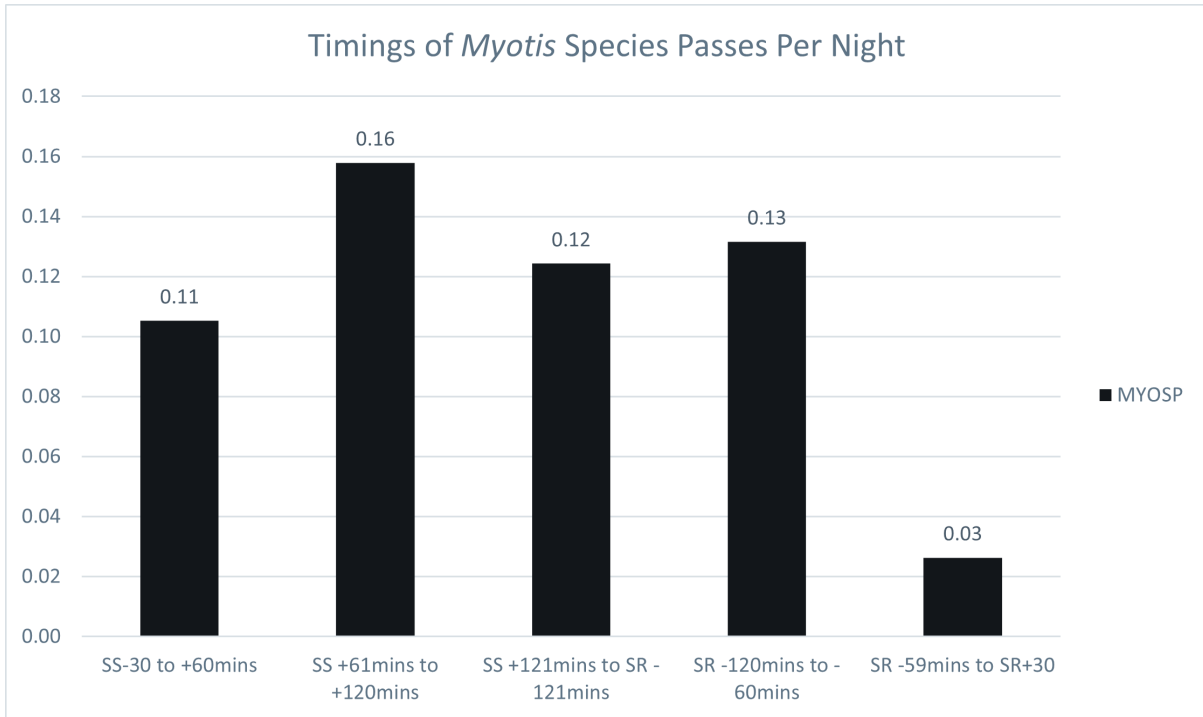
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.60	0.50	3.50	1.40	2.00

1.2.249 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-51.

1.2.250 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.16PPN while 120 minutes before sunrise up to 60 minutes after recorded 0.13PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.12PPN whilst 30 minutes before sunset and up to 60 minutes after recorded 0.11PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average within Point 7 with 0.03PPN.



Figure 1-51 – Timings of *Myotis* species passes per night within Location Point 7



Location Point 8

1.2.251 A total of 304 *Myotis* species passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 8.22PPN.

1.2.252 Monthly activity levels are presented in Table 1-55.

1.2.253 *Myotis* species activity within the month of June at Point 8 recorded the highest peak throughout all other locations with 53.80PPN September recorded the second highest average with 2.25PPN whilst August recorded the average of 1.33PPN. April recorded 1.20PPN and October recorded 1.00PPN. May recorded 0.80PPN whilst July the lowest average within Point 8 with 0.33PPN.

Table 1-55 – *Myotis* species average PPN within Point 8 throughout all survey months

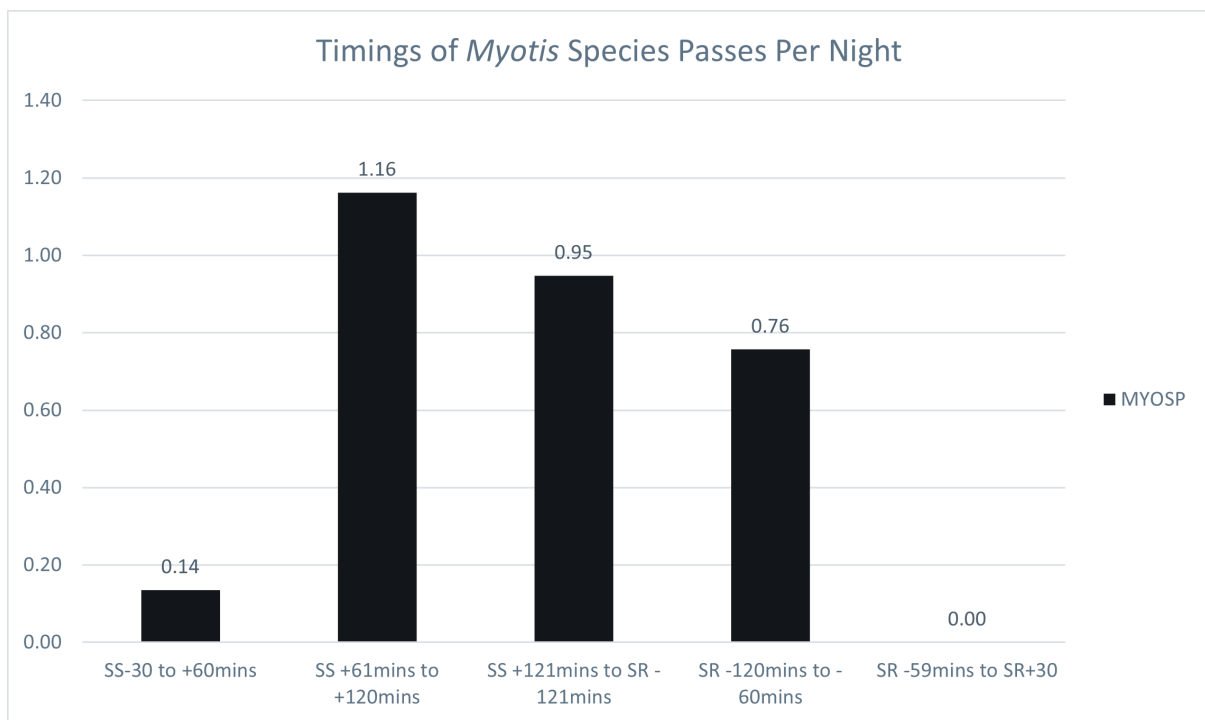
Month	April	May	June	July	August	September	October
Average PPN	1.20	0.80	53.80	0.33	1.33	2.25	1.00



1.2.254 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-52.

1.2.255 Activity peaked 61 minutes after sunset up to 120 minutes after recorded 1.16PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.95PPN. 120 minutes before sunrise up to 60 minutes after recorded 0.76PPN whilst 30 minutes before sunset and up to 60 minutes after recorded the lowest average within Point 8 with 0.14PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no *Myotis* species activity.

Figure 1-52 – Timings of *Myotis* species passes per night within Location Point 8



Location Point 9

1.2.256 A total of 138 *Myotis* species passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 3.63PPN.

1.2.257 Monthly activity levels are presented in Table 1-56.

1.2.258 *Myotis* species activity within the month of September at Point 9 recorded the highest peak throughout all other locations with 7.40PPN. October recorded



the second highest average with 5.16PPN whilst July recorded the average of 3.83PPN. June recorded 3.00PPN and August recorded 2.66PPN. April recorded 2.60PPN whilst May recorded the lowest average within Point 9 with 0.60PPN.

Table 1-56 – *Myotis* species average PPN within Point 9 throughout all survey months

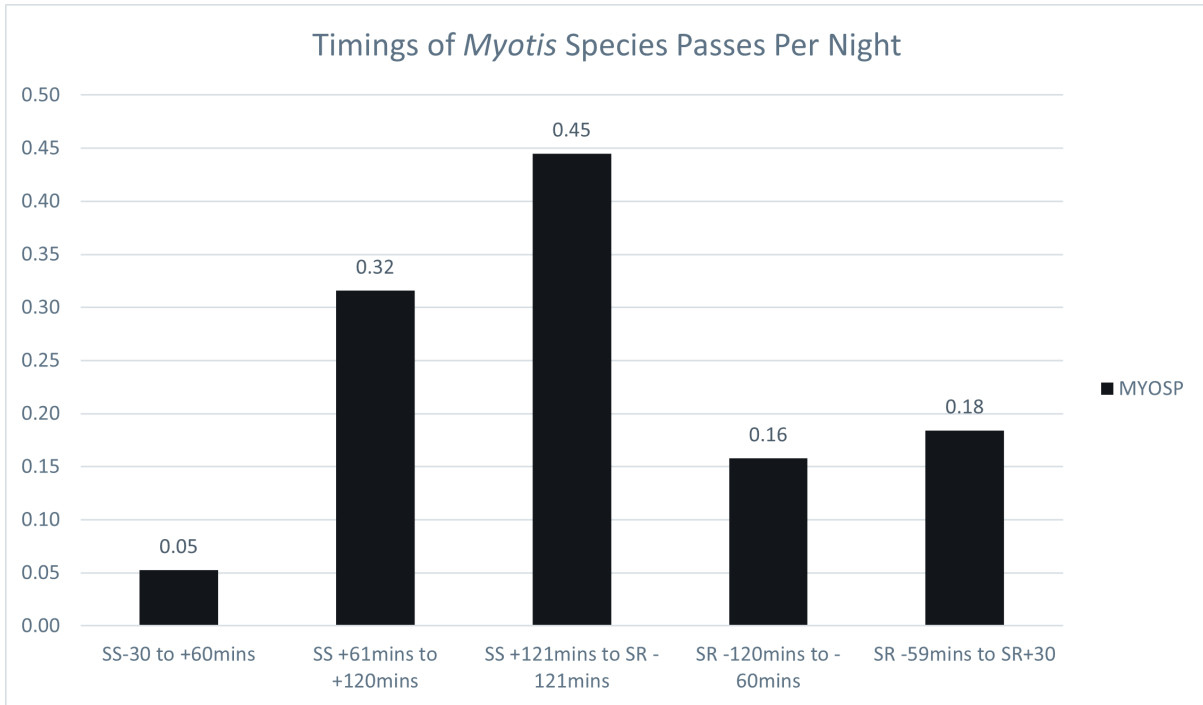
Month	April	May	June	July	August	September	October
Average PPN	2.60	0.60	3.00	3.83	2.66	7.40	5.16

1.2.259 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-53.

1.2.260 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.45PPN whilst 61 minutes before sunset up to 120 minutes after recorded 0.32PPN. 59 minutes before sunrise up to 30 minutes after recorded an average of 0.18PPN whilst 120 minutes before sunrise up to 60 minutes after recorded 0.16PPN. 30 minutes before sunset and up to 60 minutes after recorded the lowest average within Point 9 with 0.05PPN.



Figure 1-53 – Timings of *Myotis* species passes per night within Location Point 9



Location Point 10

1.2.261 A total of 91 *Myotis* species passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 2.76PPN.

1.2.262 Monthly activity levels are presented in Table 1-57.

1.2.263 *Myotis* species activity within the month of September at Point 10 recorded the highest peak throughout all other locations with 17.80PPN. June and October recorded the same average with 0.16PPN whilst April, May, July, and August recorded no *Myotis* species activity.

Table 1-57 – *Myotis* species average PPN within Point 10 throughout all survey months

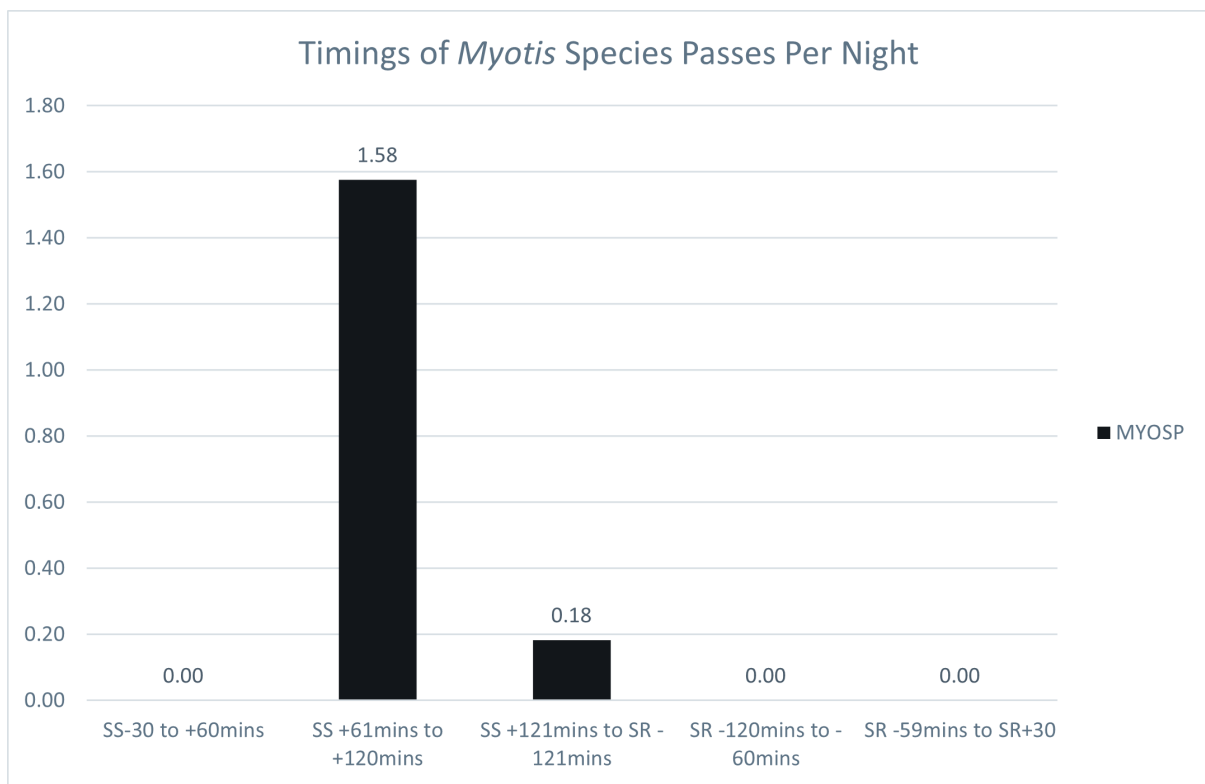
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.16	0.00	0.00	17.80	0.16

1.2.264 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-54.



1.2.265 Activity peaked whilst 61 minutes before sunset up to 120 minutes after recorded 1.58PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average within Point 10 with 0.18PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after, and 59 minutes before sunrise up to 30 minutes after recorded no *Myotis* species activity.

Figure 1-54 – Timings of *Myotis* species passes per night within Location Point 10



Location Point 11

1.2.266 A total of 29 *Myotis* species passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 1.00PPN.

1.2.267 Monthly activity levels are presented in Table 1-58.

1.2.268 *Myotis* species activity within the month of September at Point 11 recorded the highest peak throughout all other locations with 2.20PPN. August recorded the second highest average with 1.83PPN whilst October recorded the average of 1.00PPN. April recorded the lowest average within Point 11



with 0.16PPN, the months of April and May recorded no *Myotis* species passes.

Table 1-58 – *Myotis* species average PPN within Point 11 throughout all survey months

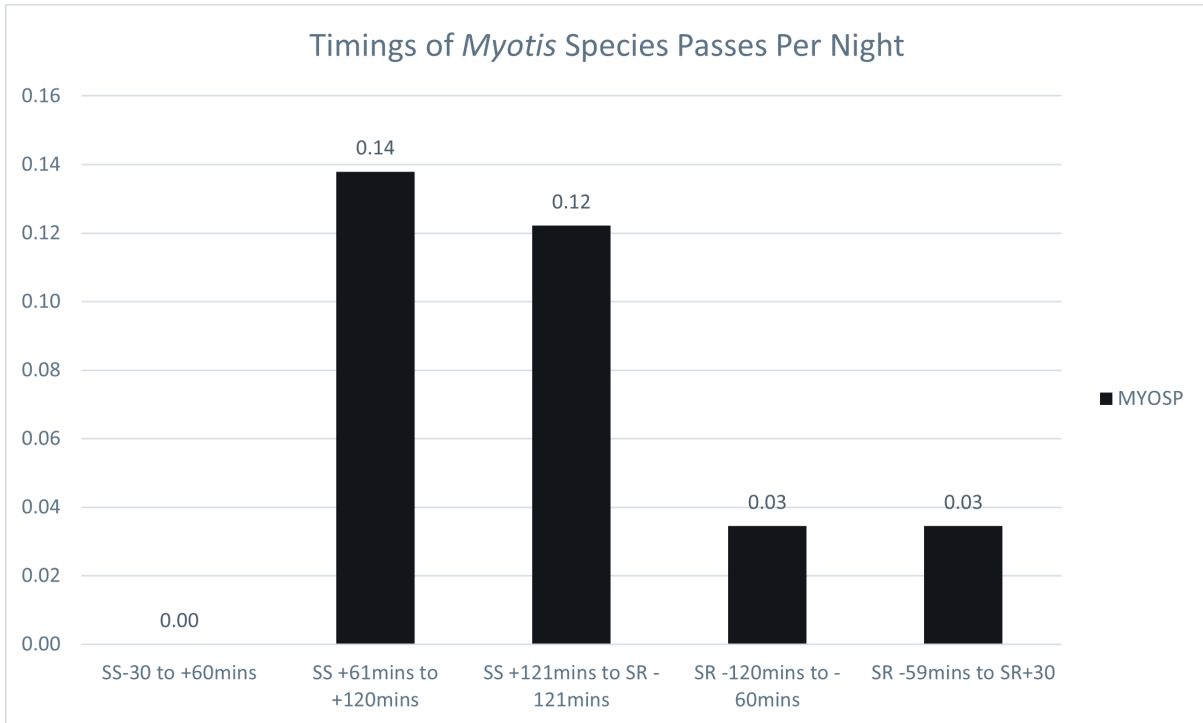
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.16	0.00	1.83	2.20	1.00

1.2.269 *Myotis* species activity was recorded on the static detectors at varying times presented in Figure 1-55.

1.2.270 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.14PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.12PPN. 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after recorded the same average with 0.03PPN. Notably, 30 minutes before sunset and up to 60 minutes after recorded no *Myotis* species activity.



Figure 1-55 – Timings of *Myotis* species passes per night within Location Point 11



Nyctalus species (Noctule and Leisler’s bat)

Location Point 1

1.2.271 A total 237 Noctule passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 7.18PPN. Within the same location, one Leisler’s was recorded which equates to an average of 0.03PPN whilst *Nyctalus*’ species recorded a total of 36 passes which equates to an average of 1.09PPN.

1.2.272 Monthly activity levels are presented in Table 1-59.

1.2.273 Noctule activity within the month of September at Point 1 recorded the highest peak throughout all other locations with 25.60PPN. Leisler’s passes were only recorded within the month of September with 0.20PPN, whilst *Nyctalus*’ species activity peaked within the month of September with 4.20PPN. June recorded the second highest average for Noctule species with 8.40PPN whilst *Nyctalus*’ species recorded the second highest average within the month of May with 2.00PPN.



1.2.274 For Noctule species, August recorded 6.00PPN while July recorded 4.20PPN. October recorded 1.33PPN however May recorded 1.00PPN. April recorded the lowest average within Point 1 for the species with 0.20PPN. *Nyctalus* species recorded the same activity average within the months of August and October with 0.66PPN. July recorded 0.60PPN whilst June recorded the lowest average within Point 1 for the species with 0.40PPN. The month of April recorded no *Nyctalus* species passes.

Table 1-59 – *Nyctalus* species average PPN within Point 1 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> Species Average PPN
April	0.20	0.00	0.00
May	1.00	0.00	2.00
June	8.40	0.00	0.40
July	4.20	0.00	0.60
August	6.00	0.00	0.66
September	25.60	0.20	4.20
October	1.33	0.00	0.66

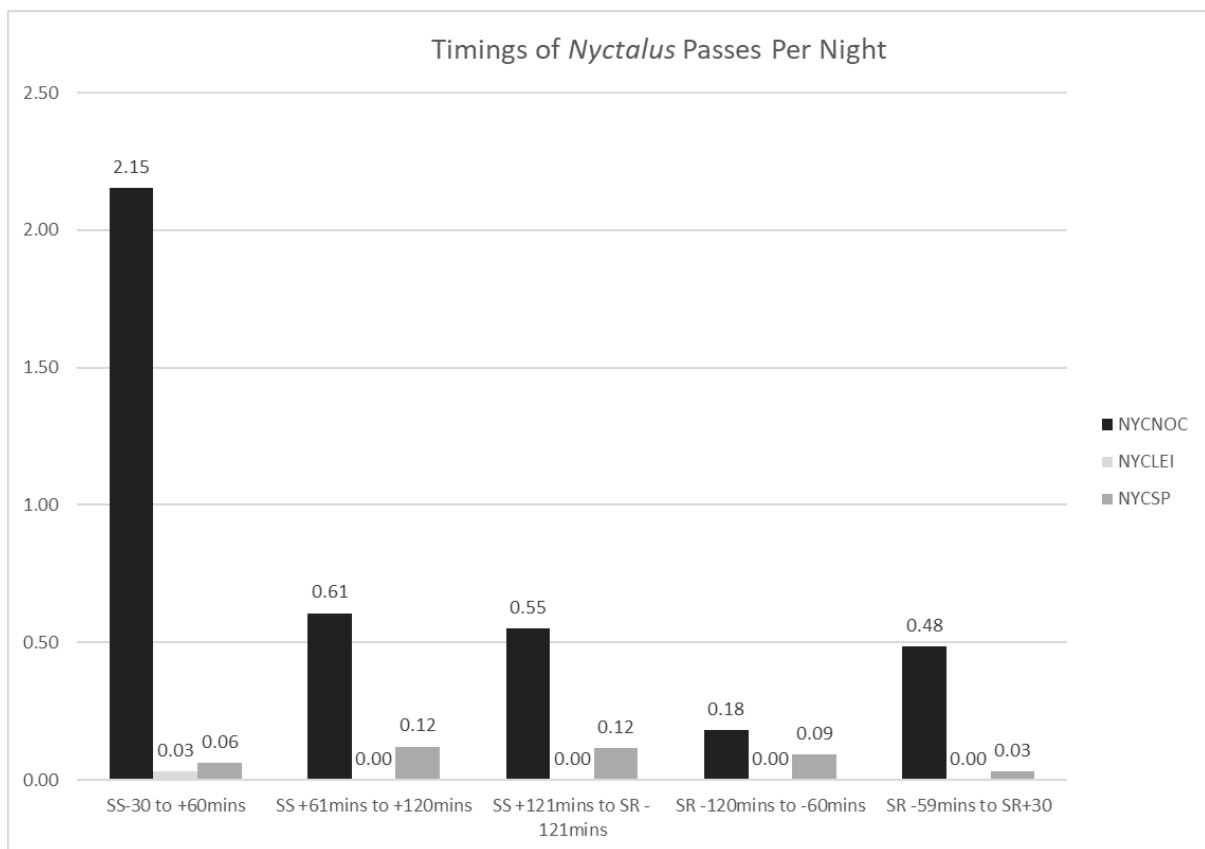
1.2.275 *Nyctalus* species activity was recorded on the static detectors at varying times presented in Figure 1-56.

1.2.276 Leisler's activity was only recorded within 30 minutes before sunset and up to 60 minutes after with 0.03PPN. Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after with an average of 2.15PPN while 61 minutes before sunset up to 120 minutes after recorded 0.61PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.55PPN whilst 59 minutes before sunrise up to 30 minutes after recorded 0.48PPN. The lowest recording for species activity was recorded 120 minutes before sunrise up to 60 minutes after with 0.18PPN.



1.2.277 *Nyctalus*' species activity peaked at 61 minutes before sunset up to 120 minutes after and 121 minutes after sunset and up to 121 minutes after with 0.12PPN. 120 minutes before sunrise up to 60 minutes after recorded 0.09PPN whilst 30 minutes before sunset and up to 60 minutes after recorded 0.06PPN. The lowest species recording for *Nyctalus*' species was recorded 59 minutes before sunrise up to 30 minutes after with an average of 0.03PPN.

Figure 1-56 – Timings of *Nyctalus*' species passes per night within Location Point 1



Location Point 2

1.2.278 A total 216 Noctule passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 5.68PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of 31 passes which equates to an average of 0.82PPN.

1.2.279 Monthly activity levels are presented in Table 1-60.



1.2.280 Noctule activity within the month of September at Point 2 recorded the highest peak throughout all other locations with 11.40PPN. *Nyctalus*' species activity peaked within the month of June with 2.00PPN. August recorded the second highest average for Noctule species with 9.50PPN whilst *Nyctalus*' species recorded the second highest average within the month of July with 1.33PPN.

1.2.281 For Noctule species, June recorded 6.60PPN while July recorded 4.50PPN. May recorded 3.60PPN however October recorded 3.33PPN. April recorded the lowest average within Point 2 for the species with 0.80PPN. *Nyctalus*' species activity within the month of August recorded 0.83PPN while May recorded 0.80PPN. September recorded 0.60PPN whilst April recorded the lowest average within Point 2 for the species with 0.20PPN. The month of October recorded no *Nyctalus*' species passes.

Table 1-60 – *Nyctalus*' species average PPN within Point 2 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	0.80	0.00	0.20
May	3.60	0.00	0.80
June	6.60	0.00	2.00
July	4.50	0.00	1.33
August	9.50	0.00	0.83
September	11.40	0.00	0.60
October	3.33	0.00	0.00

1.2.282 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-57.

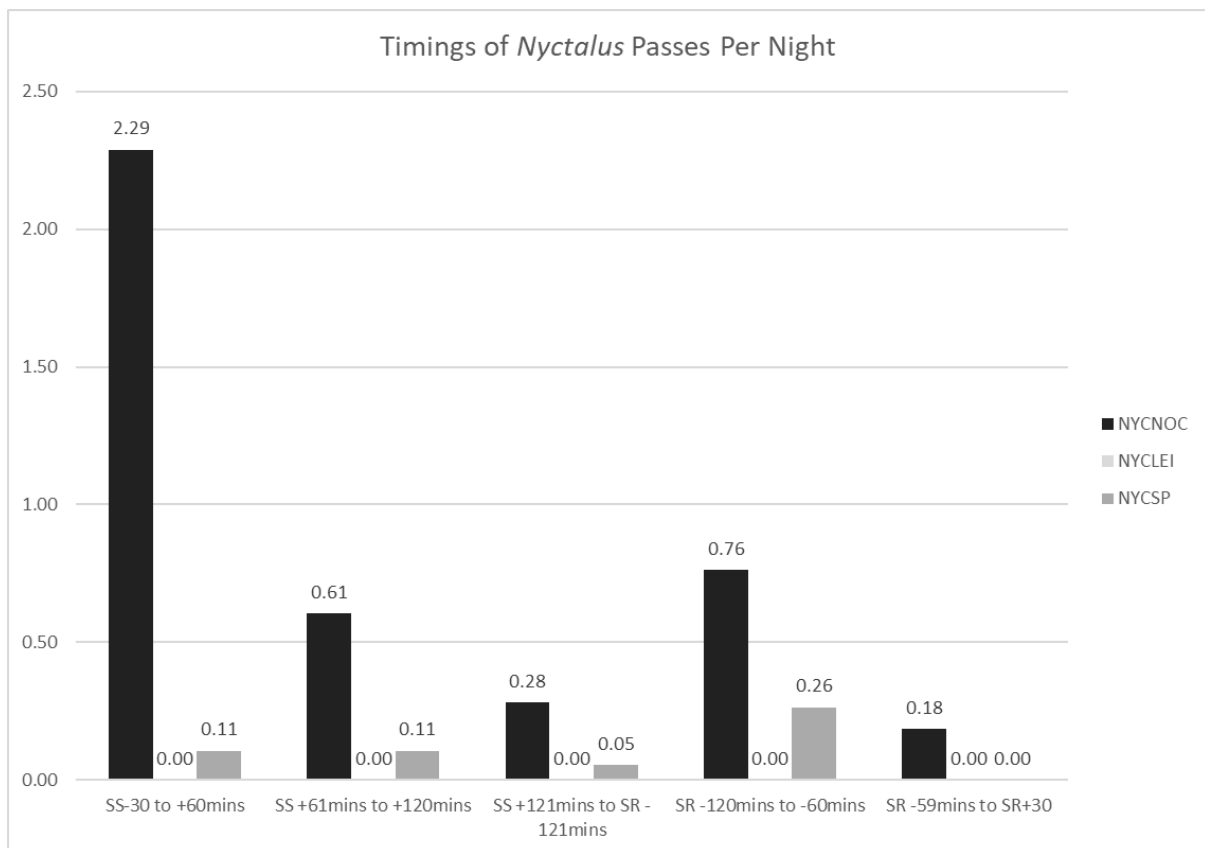
1.2.283 Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after with an average of 2.29PPN while 120 minutes before sunrise up to 60 minutes after recorded 0.76PPN. 61 minutes before sunset up to 120 minutes after recorded 0.61PPN whilst 121 minutes after sunset and up to 121



minutes after sunrise recorded 0.28PPN. The lowest recording for species activity was recorded 59 minutes before sunrise up to 30 minutes after recorded 0.18PPN.

1.2.284 *Nyctalus*' species activity peaked at 120 minutes before sunrise up to 60 minutes after recording an average of 0.26PPN. 30 minutes before sunset and up to 60 minutes after and 61 minutes before sunset up to 120 minutes after recorded the same average of 0.11PPN. 121 minutes after sunset and up to 121 minutes after recorded the lowest species activity within Point 3 with an average of 0.05PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no *Nyctalus*' species activity.

Figure 1-57 – Timings of *Nyctalus*' species passes per night within Location Point 2



Location Point 3

1.2.285 A total 338 Noctule passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 8.89PPN. Within the



same location, Leisler’s had no recorded passes whilst *Nyctalus*’ species recorded a total of 66 passes which equates to an average of 1.74PPN.

1.2.286 Monthly activity levels are presented in Table 1-61.

1.2.287 Noctule activity within the month of September at Point 3 recorded the highest peak throughout all other locations with 29.00PPN *Nyctalus*’ species activity peaked within the month of August with 8.50PPN. August recorded the second highest average for Noctule species with 19.66PPN whilst *Nyctalus*’ species recorded the second highest average within the month of October with 1.16PPN.

1.2.288 For Noctule species, the month of May recorded 6.20PPN while June recorded 3.60PPN. April recorded 2.00PPN however July recorded 1.83PPN. October recorded the lowest average within Point 3 for the species with 0.83PPN. *Nyctalus*’ species activity within the month of July recorded 0.50PPN while June and September recorded the same average with 0.40PPN. April recorded the lowest average within Point 3 for the species with 0.20PPN. The month of May recorded no *Nyctalus*’ species passes.

Table 1-61 – *Nyctalus*’ species average PPN within Point 3 throughout the survey months

Month	Noctule Average PPN	Leisler’s Average PPN	<i>Nyctalus</i> ’ Species Average PPN
April	2.00	0.00	0.20
May	6.20	0.00	0.00
June	3.60	0.00	0.40
July	1.83	0.00	0.50
August	19.66	0.00	8.50
September	29.00	0.00	0.40
October	0.83	0.00	1.16

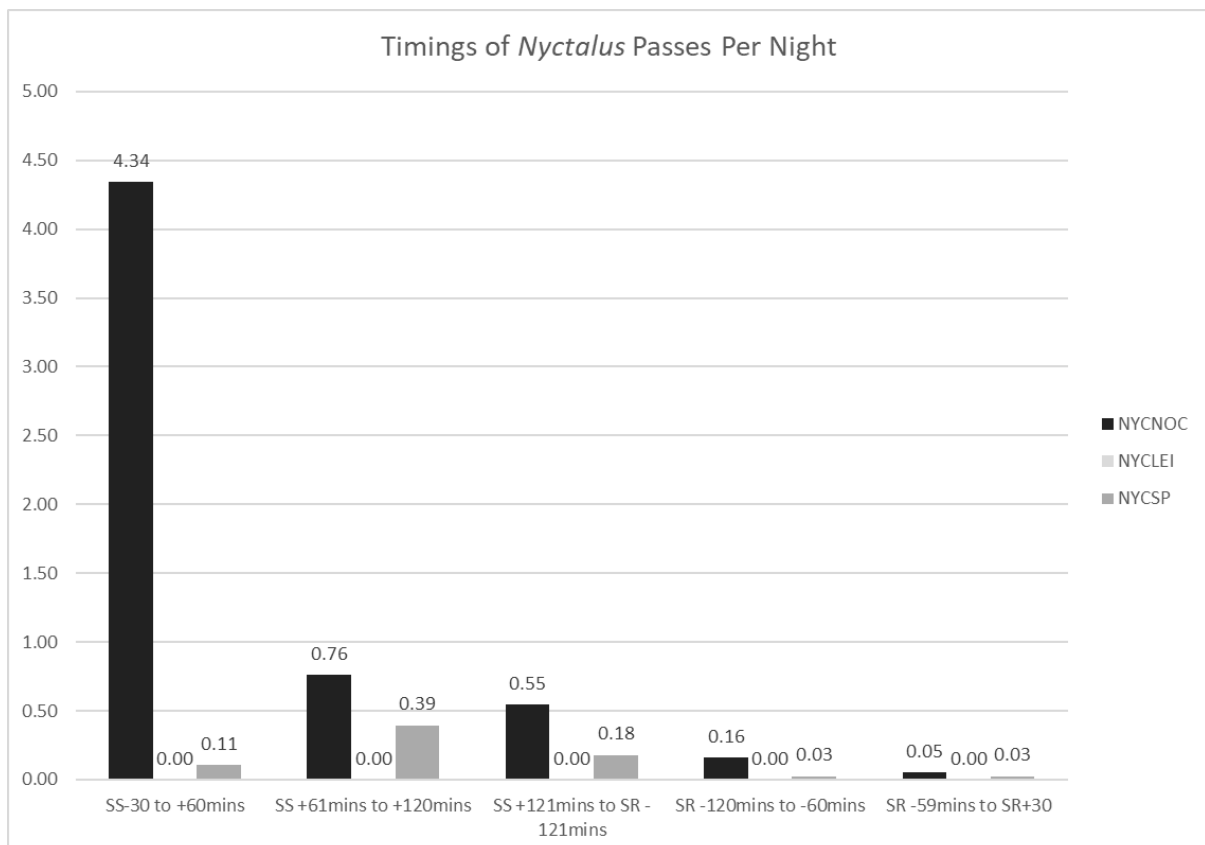
1.2.289 *Nyctalus*’ species activity was recorded on the static detectors at varying times presented in Figure 1-58.



1.2.290 Noctule activity recorded a noticeable peaked at 30 minutes before sunset and up to 60 minutes after with an average of 4.34PPN while 61 minutes before sunset up to 120 minutes after recorded 0.76PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.55PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.16PPN. The lowest recording for species activity was recorded 59 minutes before sunrise up to 30 minutes after recorded 0.05PPN.

1.2.291 *Nyctalus*' species activity peaked at 61 minutes before sunset up to 120 minutes after recorded an average of 0.39PPN whilst 121 minutes after sunset and up to 121 minutes after recorded 0.18PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 0.11PPN whilst 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after recorded the lowest average within Point 3 with 0.03PPN.

Figure 1-58 – Timings of *Nyctalus*' species passes per night within Location Point 3





Location Point 4

1.2.292 A total 1,227 Noctule passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 32.29PPN. Within the same location, Leisler’s had no recorded passes whilst *Nyctalus*’ species recorded a total of 371 passes which equates to an average of 9.76PPN.

1.2.293 Monthly activity levels are presented in Table 1-62.

1.2.294 Noctule activity within the month of July at Point 3 recorded the highest peak throughout all other locations with 91.50PPN. *Nyctalus*’ species activity peaked within the month of August with 50.00PPN. August recorded the second highest average for Noctule species with 81.83PPN whilst *Nyctalus*’ species recorded the second highest average within the month of September with 4.80PPN.

1.2.295 For Noctule species, September recorded 17.20PPN while June recorded 14.00PPN. April recorded 3.00PPN however May recorded 2.00PPN. October recorded the lowest average within Point 4 for the species with 1.00PPN. *Nyctalus*’ species activity within the month of July recorded 3.83PPN while October recorded 1.50PPN. April and June recorded the same average with 1.40PPN. May recorded the lowest average within Point 4 for the species with 0.20PPN.

Table 1-62 – *Nyctalus*’ species average PPN within Point 4 throughout all survey months

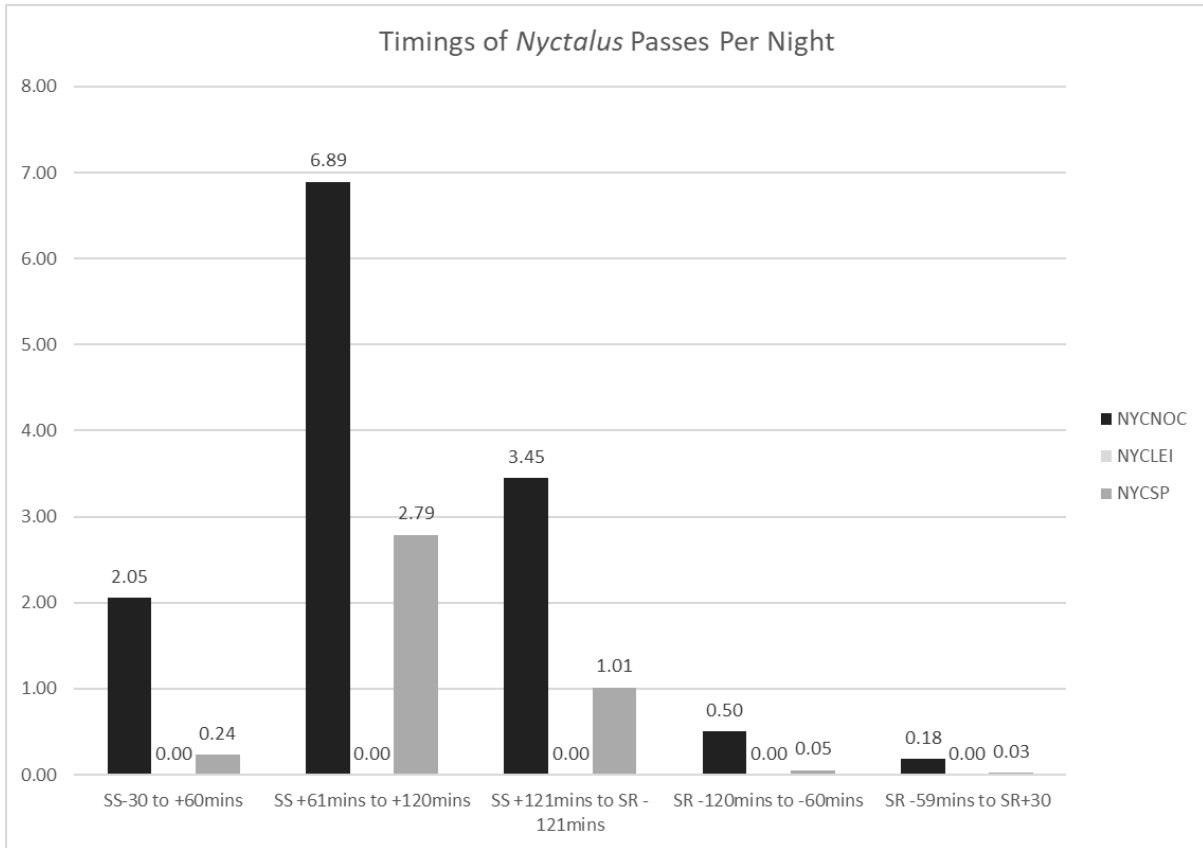
Month	Noctule Average PPN	Leisler’s Average PPN	<i>Nyctalus</i> ’ Species Average PPN
April	3.00	0.00	1.40
May	2.00	0.00	0.20
June	14.00	0.00	1.40
July	91.50	0.00	3.83
August	81.83	0.00	50.00
September	17.20	0.00	4.80
October	1.00	0.00	1.50



- 1.2.296 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-59.
- 1.2.297 Noctule activity recorded a noticeable peaked at 61 minutes before sunset up to 120 minutes after with an average of 6.89PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 3.45PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 2.05PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.50PPN. The lowest recording for species activity was recorded 59 minutes before sunrise up to 30 minutes after recorded 0.18PPN.
- 1.2.298 *Nyctalus*' species activity peaked at 61 minutes before sunset up to 120 minutes after recorded an average of 2.79PPN whilst 121 minutes after sunset and up to 121 minutes after recorded 1.01PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 0.24PPN whilst 120 minutes before sunrise up to 60 minutes after recorded the lowest average for *Nyctalus*' species with 0.05PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no species activity.



Figure 1-59 – Timings of *Nyctalus*' species passes per night within Location Point 4



Location Point 5

1.2.299 A total 1456 Noctule passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 38.32PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of 341 passes which equates to an average of 8.97PPN.

1.2.300 Monthly activity levels are presented in Table 1-63.

1.2.301 Noctule activity within the month of July at Point 5 recorded the highest peak throughout all other locations with 143.67PPN. *Nyctalus*' species activity peaked within the month of August with 36.00PPN. August recorded the second highest average for Noctule species with 53.83PPN whilst *Nyctalus*' species recorded the second highest average within the month of July with 13.50PPN.



1.2.302 For Noctule species, September recorded 33.80PPN while June recorded 14.60PPN. April recorded 3.00PPN however May recorded 1.60PPN. October recorded the lowest average within Point 5 for the species with 1.00PPN. *Nyctalus*' species activity within the month of September recorded 5.80PPN while June recorded 1.60PPN. April recorded 0.80PPN with May recording 0.40PPN. October recorded the lowest average within Point 5 for the species with 0.16PPN.

Table 1-63 – *Nyctalus*' species average PPN within Point 5 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	3.00	0.00	0.80
May	1.60	0.00	0.40
June	14.60	0.00	1.60
July	143.67	0.00	13.50
August	53.83	0.00	36.00
September	33.80	0.00	5.80
October	1.00	0.00	0.16

1.2.303 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-60.

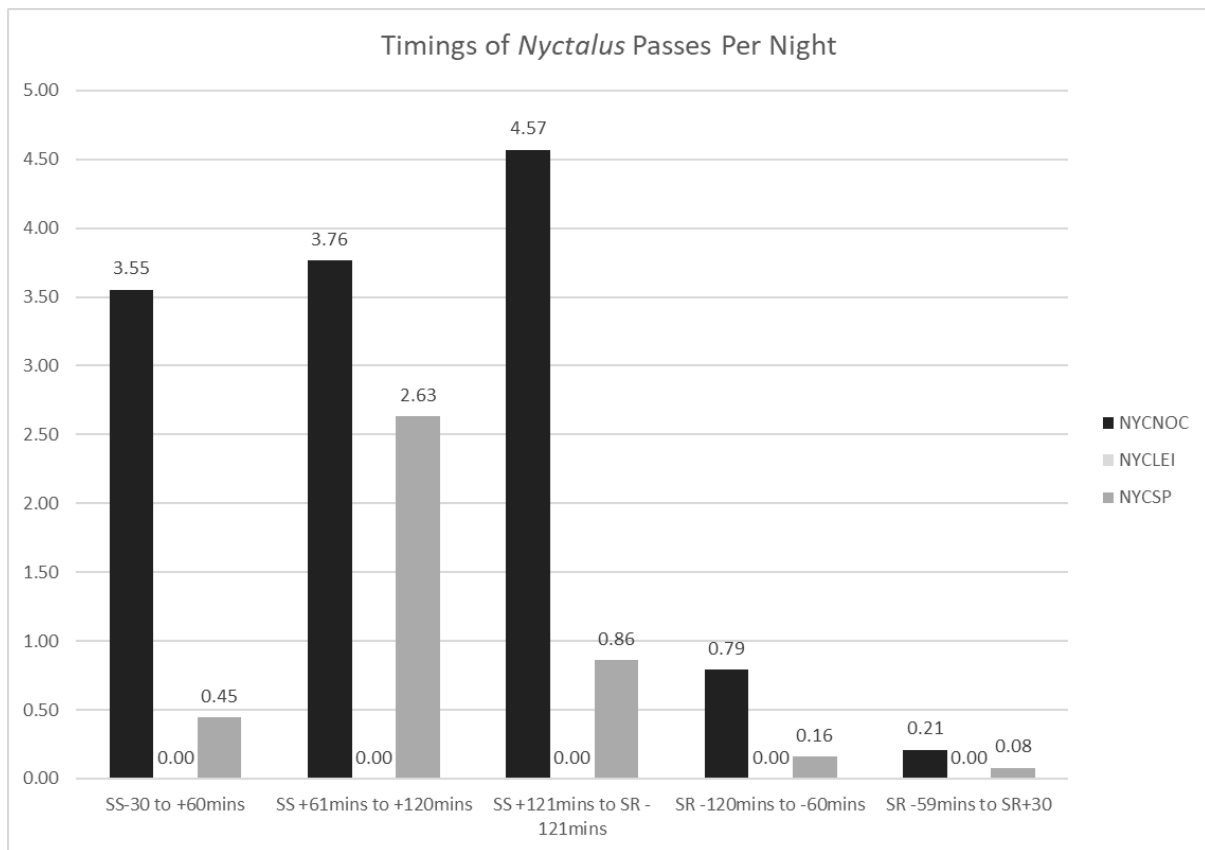
1.2.304 Noctule activity peaked at 121 minutes after sunset and up to 121 minutes after sunrise 4.57PPN while 61 minutes before sunset up to 120 minutes after with an average of 3.76PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 3.55PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.79PPN. The lowest recording for species activity was recorded 59 minutes before sunrise up to 30 minutes after recorded 0.21PPN.

1.2.305 *Nyctalus*' species activity peaked at 61 minutes before sunset up to 120 minutes after recorded an average of 2.63PPN whilst 121 minutes after



sunset and up to 121 minutes after recorded 0.86PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 0.45PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.16PPN. The lowest average for *Nyctalus*' species at Point 5 was recorded at 59 minutes before sunrise up to 30 minutes after with 0.08PPN.

Figure 1-60 – Timings of *Nyctalus*' species passes per night within Location Point 5



Location Point 6

1.2.306 A total 134 Noctule passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 3.53PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of 37 passes which equates to an average of 0.97PPN.

1.2.307 Monthly activity levels are presented in Table 1-64.

1.2.308 Noctule activity within the month of September at Point 6 recorded the highest peak throughout all other locations with 8.40PPN. *Nyctalus*' species activity



peaked within the month of August with 2.83PPN. August recorded the second highest average for Noctule species with 6.33PPN whilst *Nyctalus*' species recorded the second highest average within the month of July with 2.16PPN.

1.2.309 For Noctule species, June recorded 3.60PPN while May recorded 2.40PPN. July recorded 2.00PPN however October recorded 1.66PPN. April recorded the lowest average within Point 6 for the species with 0.40PPN. *Nyctalus*' species activity within the month of September recorded 0.80PPN while October recorded 0.33PPN. June recorded the lowest average within Point 6 for the species with 0.20PPN. The month of April and May recorded no *Nyctalus*' species passes.

Table 1-64 – *Nyctalus*' species average PPN within Point 6 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	0.40	0.00	0.00
May	2.40	0.00	0.00
June	3.60	0.00	0.20
July	2.00	0.00	2.16
August	6.33	0.00	2.83
September	8.40	0.00	0.80
October	1.66	0.00	0.33

1.2.310 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-61.

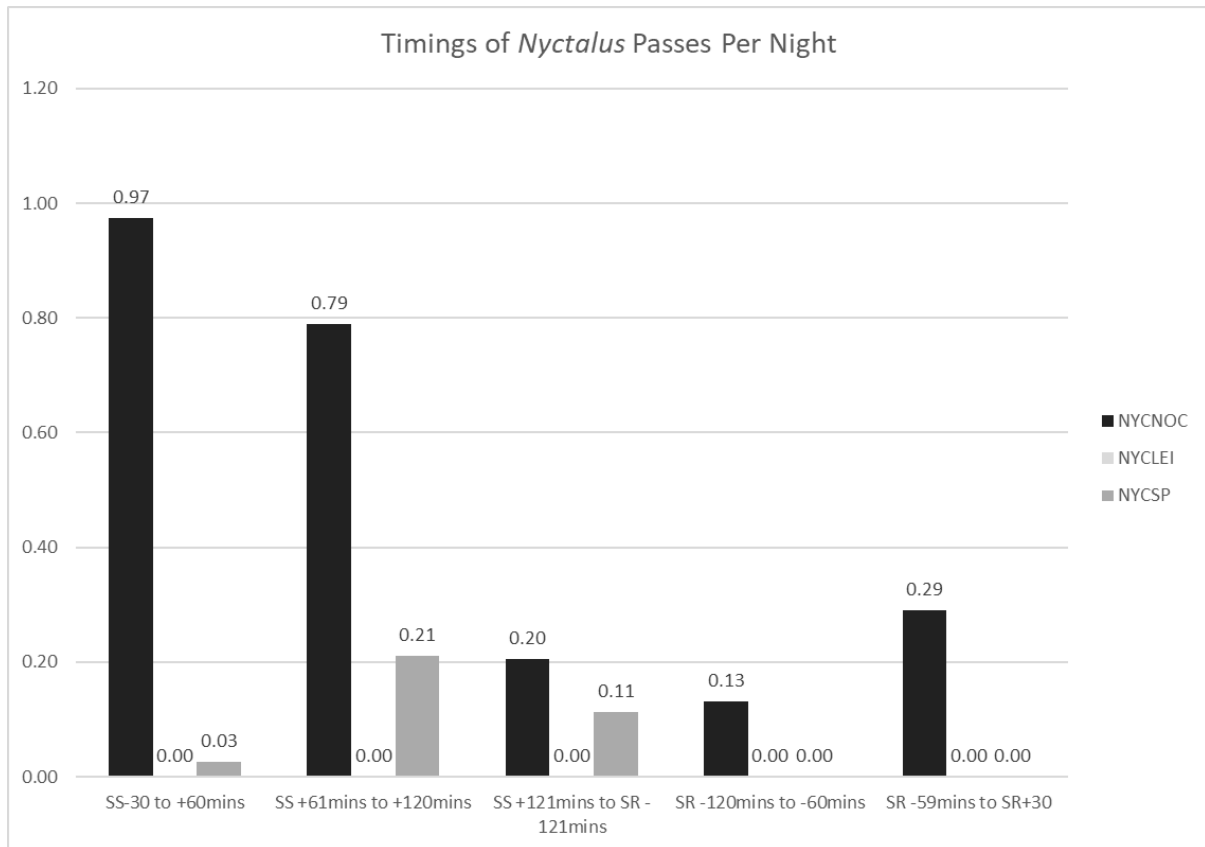
1.2.311 Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after recorded an average of 0.97PPN whilst 61 minutes before sunset up to 120 minutes after with an average of 0.79PPN. 59 minutes before sunrise up to 30 minutes after recorded 0.29PPN while 121 minutes after sunset and up



to 121 minutes after sunrise 0.20PPN. The lowest average was recorded 120 minutes before sunrise up to 60 minutes after with 0.13PPN.

1.2.312 *Nyctalus*' species activity peaked 61 minutes before sunset up to 120 minutes after with 0.21PPN whilst 121 minutes after sunset and up to 121 minutes after recorded 0.11PPN. The lowest average was recorded at 30 minutes before sunset and up to 60 minutes after recorded an average of 0.03PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after recorded no species activity.

Figure 1-61 – Timings of *Nyctalus*' species passes per night within Location Point 6



Location Point 7

1.2.313 A total 184 Noctule passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 4.84PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of 23 passes which equates to an average of 0.61PPN.



1.2.314 Monthly activity levels are presented in Table 1-65.

1.2.315 Noctule activity within the month of August at Point 7 recorded the highest peak throughout all other locations with 17.50PPN. *Nyctalus*' species activity peaked within the month of August with 2.33PPN. September recorded the second highest average for Noctule species with 10.00PPN whilst *Nyctalus*' species recorded the second highest average within the month of July with 0.83PPN.

1.2.316 For Noctule species, June recorded 2.80PPN while May recorded 1.60PPN. July recorded 1.00PPN however October recorded the lowest average within Point 7 for the species with 0.16PPN. Within the month of April, no Noctule species passes were recorded. *Nyctalus*' species activity within the month of May and September recorded the same average of 0.40PPN while the months of April, June, and October recorded no *Nyctalus*' species passes.

Table 1-65 – *Nyctalus*' species average PPN within Point 7 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	0.00	0.00	0.00
May	1.60	0.00	0.40
June	2.80	0.00	0.00
July	1.00	0.00	0.83
August	17.50	0.00	2.33
September	10.00	0.00	0.40
October	0.16	0.00	0.00

1.2.317 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-62.

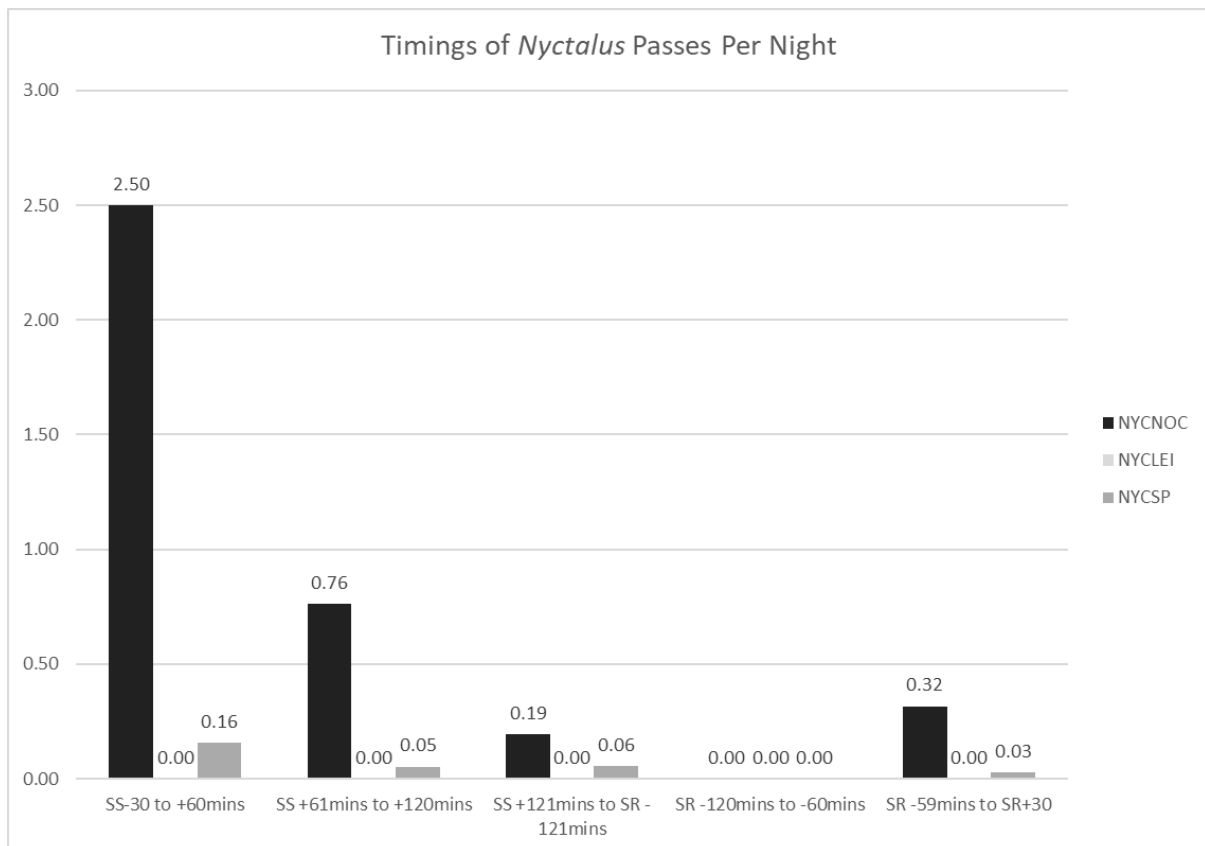
1.2.318 Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after recorded an average of 2.50PPN whilst 61 minutes before sunset up to



120 minutes after with an average of 0.76PPN. 59 minutes before sunrise up to 30 minutes after recorded 0.32PPN while the lowest average was record at 121 minutes after sunset and up to 121 minutes after sunrise with 0.19PPN. Notably, 120 minutes before sunrise up to 60 minutes after recorded no species activity.

1.2.319 *Nyctalus*' species activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 0.16PPN while 121 minutes after sunset and up to 121 minutes after recorded 0.06PPN. 61 minutes before sunset up to 120 minutes after with an average of 0.05PPN while the lowest average was recorded at 59 minutes before sunrise up to 30 minutes after with 0.03PPN. Notably, 120 minutes before sunrise up to 60 minutes after recorded no species activity.

Figure 1-62 – Timings of *Nyctalus*' species passes per night within Location Point 7





Location Point 8

- 1.2.320 A total 223 Noctule passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 6.03PPN. Within the same location, Leisler’s had no recorded passes whilst *Nyctalus*’ species recorded a total of 37 passes which equates to an average of 1.00PPN.
- 1.2.321 Monthly activity levels are presented in Table 1-66.
- 1.2.322 Noctule activity within the month of September at Point 8 recorded the highest peak throughout all other locations with 26.75PPN. *Nyctalus*’ species activity peaked within the month of July with 2.66PPN. August recorded the second highest average for Noctule species with 12.66PPN whilst *Nyctalus*’ species recorded the second highest average within the month of August with 2.33PPN.
- 1.2.323 For Noctule species, the month of May recorded 3.00PPN while July recorded 2.00PPN. June recorded 1.00PPN however October recorded 0.83PPN. April recorded the lowest average within Point 8 for the species with 0.60PPN. *Nyctalus*’ species activity within the month of September recorded 0.75PPN while May recorded 0.60PPN. April recorded the lowest average within Point 8 for the species with 0.20PPN. The month of June and October recorded no *Nyctalus*’ species passes.

Table 1-66 – *Nyctalus*’ species average PPN within Point 8 throughout all survey months

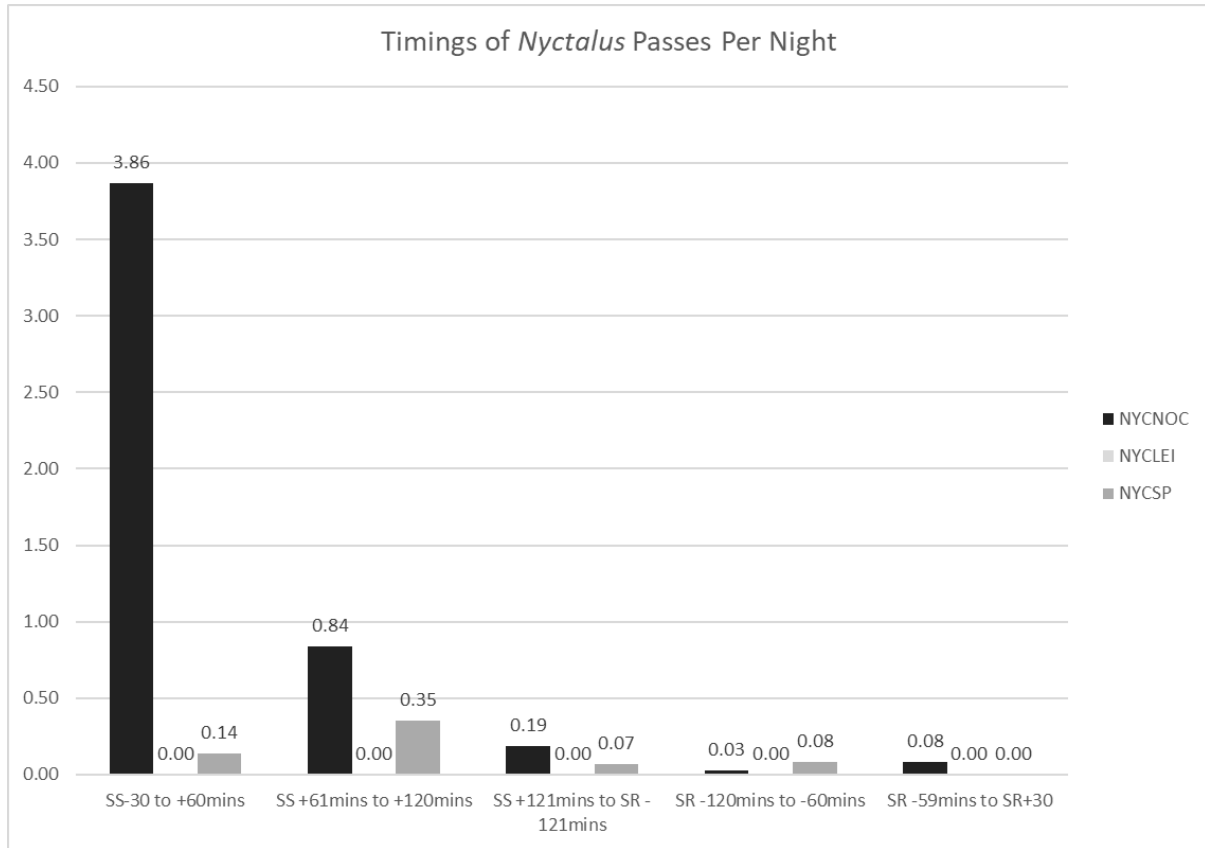
Month	Noctule Average PPN	Leisler’s Average PPN	<i>Nyctalus</i> ’ Species Average PPN
April	0.60	0.00	0.20
May	3.00	0.00	0.60
June	1.00	0.00	0.00
July	2.00	0.00	2.66
August	12.66	0.00	2.33
September	26.75	0.00	0.75
October	0.83	0.00	0.00



- 1.2.324 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-63.
- 1.2.325 Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after recorded an average of 3.86PPN whilst 61 minutes before sunset up to 120 minutes after with an average of 0.84PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.19PPN whilst 59 minutes before sunrise up to 30 minutes after recorded 0.08PPN. The lowest average was record at 120 minutes before sunrise up to 60 minutes after with 0.03PPN.
- 1.2.326 *Nyctalus*' species activity peaked 61 minutes before sunset up to 120 minutes after with an average of 0.35PPN while 30 minutes before sunset and up to 60 minutes after recorded an average of 0.14PPN. 120 minutes before sunrise up to 60 minutes after recorded an average of 0.08PPN while the lowest average was recorded 121 minutes after sunset and up to 121 minutes after recorded 0.07PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no species activity.



Figure 1-63 – Timings of *Nyctalus*' species passes per night within Location Point 8



Location Point 9

1.2.327 A total 684 Noctule passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 18.00PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of 60 passes which equates to an average of 1.58PPN.

1.2.328 Monthly activity levels are presented in Table 1-67.

1.2.329 Noctule activity within the month of September at Point 9 recorded the highest peak throughout all other locations with 96.40PPN. *Nyctalus*' species activity peaked within the month of September with 7.00PPN. August recorded the second highest average for Noctule species with 23.66PPN whilst *Nyctalus*' species recorded the second highest average within the month of August with 2.16PPN.



1.2.330 For Noctule species, June recorded 5.20PPN while July recorded 2.83PPN.

May recorded 2.40PPN however October recorded the lowest average within Point 9 for the species with 0.83PPN. The month of April recorded no Noctule passes. *Nyctalus*' species activity within the month of July recorded 1.83PPN while October recorded the lowest average within Point 9 for the species with 0.16PPN. The month of April, May, and June recorded no *Nyctalus*' species passes.

Table 1-67 – *Nyctalus*' species average PPN within Point 9 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	0.00	0.00	0.00
May	2.40	0.00	0.00
June	5.20	0.00	0.00
July	2.83	0.00	1.83
August	23.66	0.00	2.16
September	96.40	0.00	7.00
October	0.83	0.00	0.16

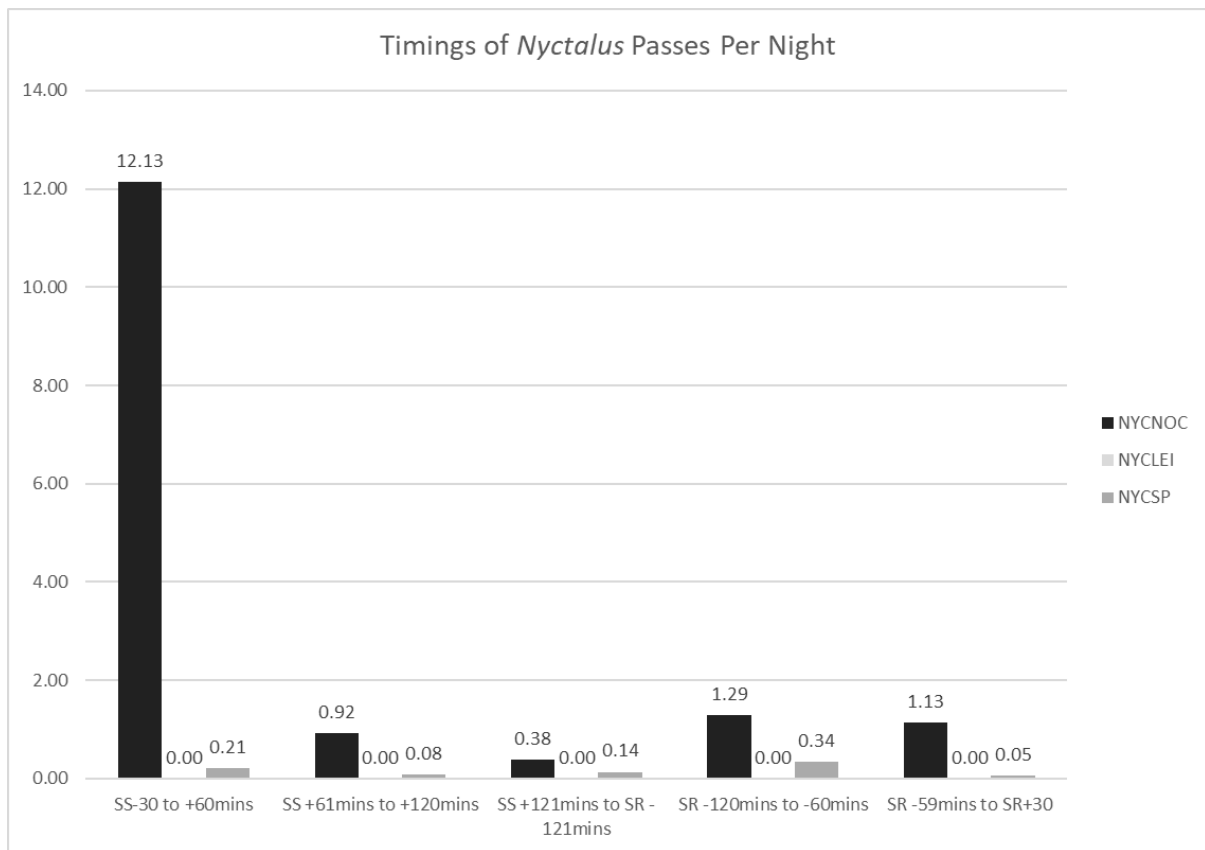
1.2.331 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-64.

1.2.332 Noctule activity peaked at 30 minutes before sunset and up to 60 minutes after recorded an average of 12.13PPN whilst 120 minutes before sunrise up to 60 minutes after with 1.29PPN. 59 minutes before sunrise up to 30 minutes after recorded an average of 1.13PPN whilst 61 minutes before sunset up to 120 minutes after recorded an average of 0.92PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average for the species with 0.38PPN.



1.2.333 *Nyctalus*' species activity peaked at 120 minutes before sunrise up to 60 minutes after recorded an average of 0.34PPN whilst 30 minutes before sunset and up to 60 minutes after recorded an average of 0.21PPN. 121 minutes after sunset and up to 121 minutes after recorded an average of 0.14PPN whilst 61 minutes before sunset up to 120 minutes after with an average of 0.08PPN. The lowest average was recorded 59 minutes before sunrise up to 30 minutes after with 0.05PPN.

Figure 1-64 – Timings of *Nyctalus*' species passes per night within Location Point 9



Location Point 10

1.2.334 A total 107 Noctule passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 3.24PPN. Within the same location, Leisler's had no recorded passes whilst *Nyctalus*' species recorded a total of seven passes which equates to an average of 0.21PPN.

1.2.335 Monthly activity levels are presented in Table 1-68.



1.2.336 Noctule activity within the month of September at Point 10 recorded the highest peak throughout all other locations with 8.40PPN . *Nyctalus*' species activity peaked within the month of July with 0.83PPN. July recorded the second highest average for Noctule species with 5.83PPN whilst *Nyctalus*' species recorded the second highest average within the month of September with 0.20PPN.

1.2.337 For Noctule species, the month of May recorded 3.20PPN while June recorded 2.16PPN. October recorded the lowest average within Point 10 for the species with 0.16PPN. The months of April and August recorded no Noctule passes. *Nyctalus*' species had the lowest recorded average within Point 10 within the month of June with 0.16PPN. The month of April, May, August, and October recorded no *Nyctalus*' species passes.

Table 1-68 – *Nyctalus*' species average PPN within Point 10 throughout all survey months

Month	Noctule Average PPN	Leisler's Average PPN	<i>Nyctalus</i> ' Species Average PPN
April	0.00	0.00	0.00
May	3.20	0.00	0.00
June	2.16	0.00	0.16
July	5.83	0.00	0.83
August	0.00	0.00	0.00
September	8.40	0.00	0.20
October	0.16	0.00	0.00

1.2.338 *Nyctalus*' species activity was recorded on the static detectors at varying times presented in Figure 1-65.

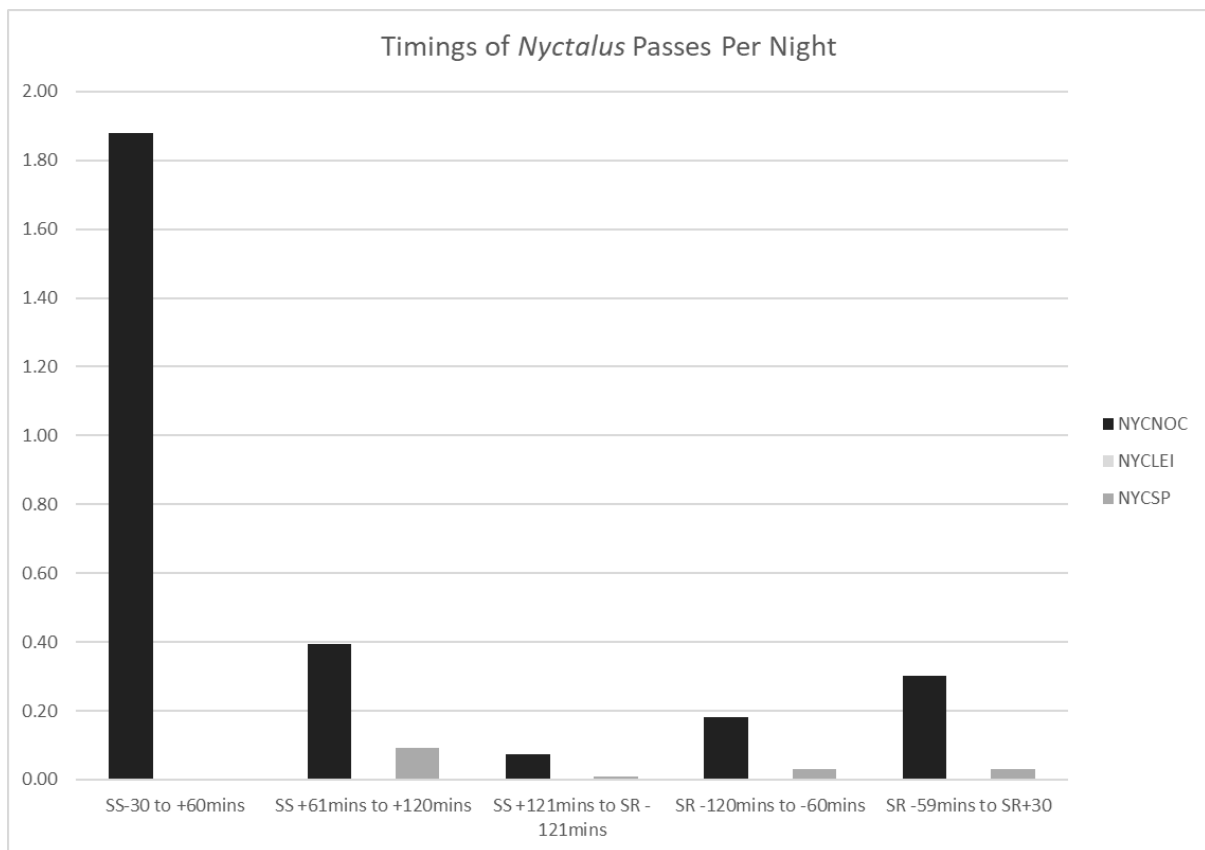
1.2.339 Noctule activity peaked 30 minutes before sunset and up to 60 minutes after recorded an average of 1.88PPN whilst 61 minutes before sunset up to 120 minutes after with an average of 0.39PPN. 59 minutes before sunrise up to 30 minutes after recorded an average of 0.30PPN while 120 minutes before



sunrise up to 60 minutes after with 0.18PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded the lowest average for the species with 0.07PPN.

1.2.340 *Nyctalus*' species activity peaked at 61 minutes before sunset up to 120 minutes after with an average of 0.09PPN whilst 120 minutes before sunrise up to 60 minutes after and recorded 59 minutes before sunrise up to 30 minutes after recorded the same average of 0.03PPN. The lowest average was recorded 121 minutes after sunset and up to 121 minutes after with 0.01PPN. Notably, 30 minutes before sunset and up to 60 minutes after recorded no *Nyctalus*' species activity.

Figure 1-65 – Timings of *Nyctalus*' species passes per night within Location Point 10



Location Point 11

1.2.341 A total 398 Noctule passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 13.72PPN. Within the



same location, Leisler’s had no recorded passes whilst *Nyctalus*’ species recorded a total of 29 passes which equates to an average of 1.00PPN.

1.2.342 Monthly activity levels are presented in Table 1-69.

1.2.343 Noctule activity within the month of July at Point 11 recorded the highest peak throughout all other locations with 34.16PPN. *Nyctalus*’ species activity peaked within the month of August with 1.83PPN. September recorded the second highest average for Noctule species with 12.60PPN whilst *Nyctalus*’ species recorded the second highest average within the month of July with 1.66PPN.

1.2.344 For Noctule species, August recorded 9.83PPN while June recorded 8.66PPN. October recorded the lowest average within Point 11 for the species with 3.16PPN. The month of April and May recorded Noctule passes. *Nyctalus*’ species activity within the month of June recorded 1.16PPN while October recorded the lowest average within Point 11 for the species with 0.16PPN. The month of April, May, and September recorded no *Nyctalus*’ species passes.

Table 1-69 – *Nyctalus*’ species average PPN within Point 11 throughout all survey months

Month	Noctule Average PPN	Leisler’s Average PPN	<i>Nyctalus</i> ’ Species Average PPN
April	0.00	0.00	0.00
May	0.00	0.00	0.00
June	8.66	0.00	1.16
July	34.16	0.00	1.66
August	9.83	0.00	1.83
September	12.60	0.00	0.00
October	3.16	0.00	0.16

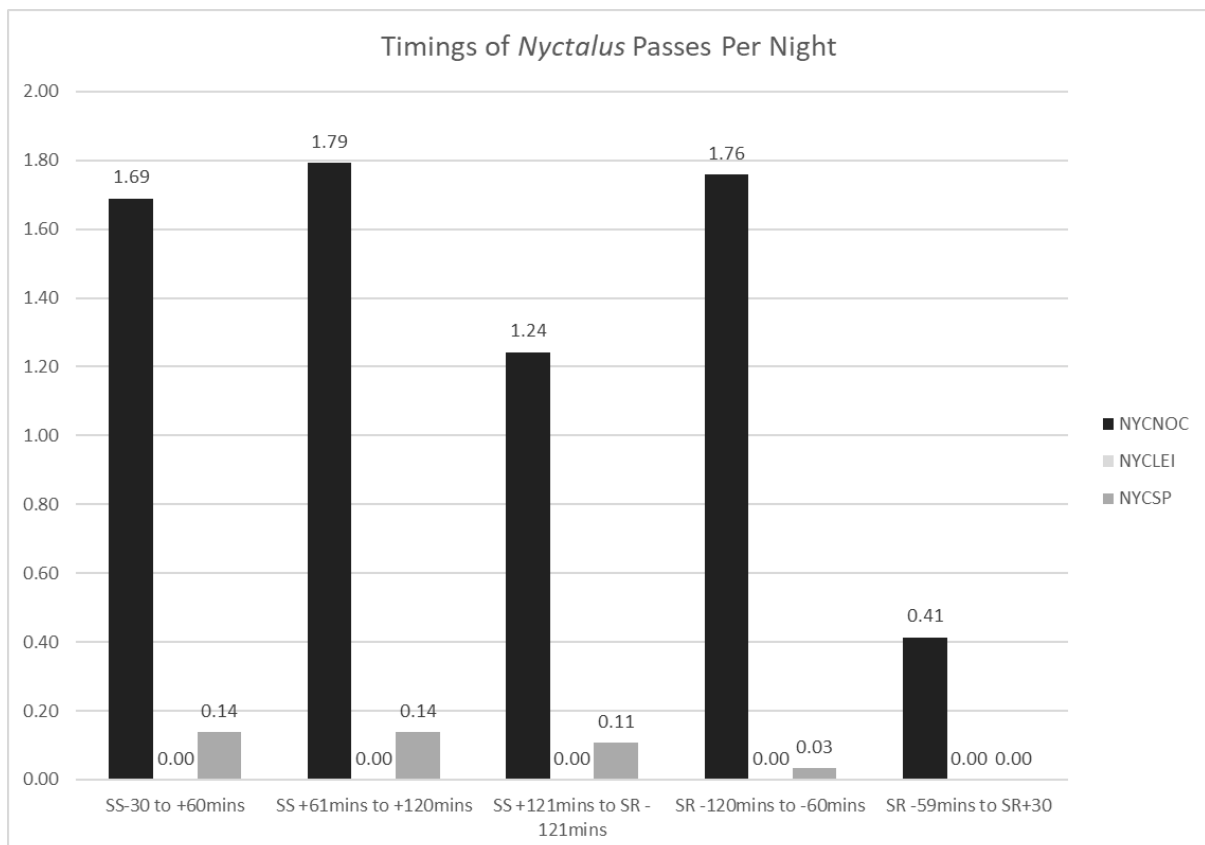
1.2.345 *Nyctalus*’ species activity was recorded on the static detectors at varying times presented in Figure 1-66.



1.2.346 Noctule activity peaked 61 minutes before sunset up to 120 minutes after with an average of 1.79PPN whilst 120 minutes before sunrise up to 60 minutes after with 1.76PPN. 30 minutes before sunset and up to 60 minutes after recorded an average of 1.69PPN while 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 1.24PPN. 59 minutes before sunrise up to 30 minutes after recorded the lowest average for the species with 0.41PPN.

1.2.347 *Nyctalus*' species activity peaked at 30 minutes before sunset and up to 60 minutes and at 61 minutes before sunset up to 120 minutes after with the same average of 0.14PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded an average of 0.11PPN whilst 120 minutes before sunrise up to 60 minutes after recorded the lowest average for the species with 0.03PPN. Notably, 59 minutes before sunrise up to 30 minutes after recorded no species activity within Point 11.

Figure 1-66 – Timings of *Nyctalus*' species passes per night within Location Point 11





Brown Long-eared Bat

Location Point 1

1.2.348 A total of 21 Brown Long-eared bat passes were recorded at Point 1 throughout the detector deployment in 2021, which equates to an average of 0.64PPN.

1.2.349 Monthly activity levels are presented in Table 1-70.

1.2.350 Brown Long-eared bat activity within the month of June at Point 1 recorded the highest peak throughout all other locations with 1.60PPN. July recorded 1.20PPN whilst August recorded 0.83PPN. April recorded 0.20PPN, however, October recorded the lowest average within Point 1 for the species with 0.16PPN. The month of May and September recorded no Brown Long-eared bat activity.

Table 1-70 – Brown Long-eared bat average PPN within Point 1 throughout all survey months

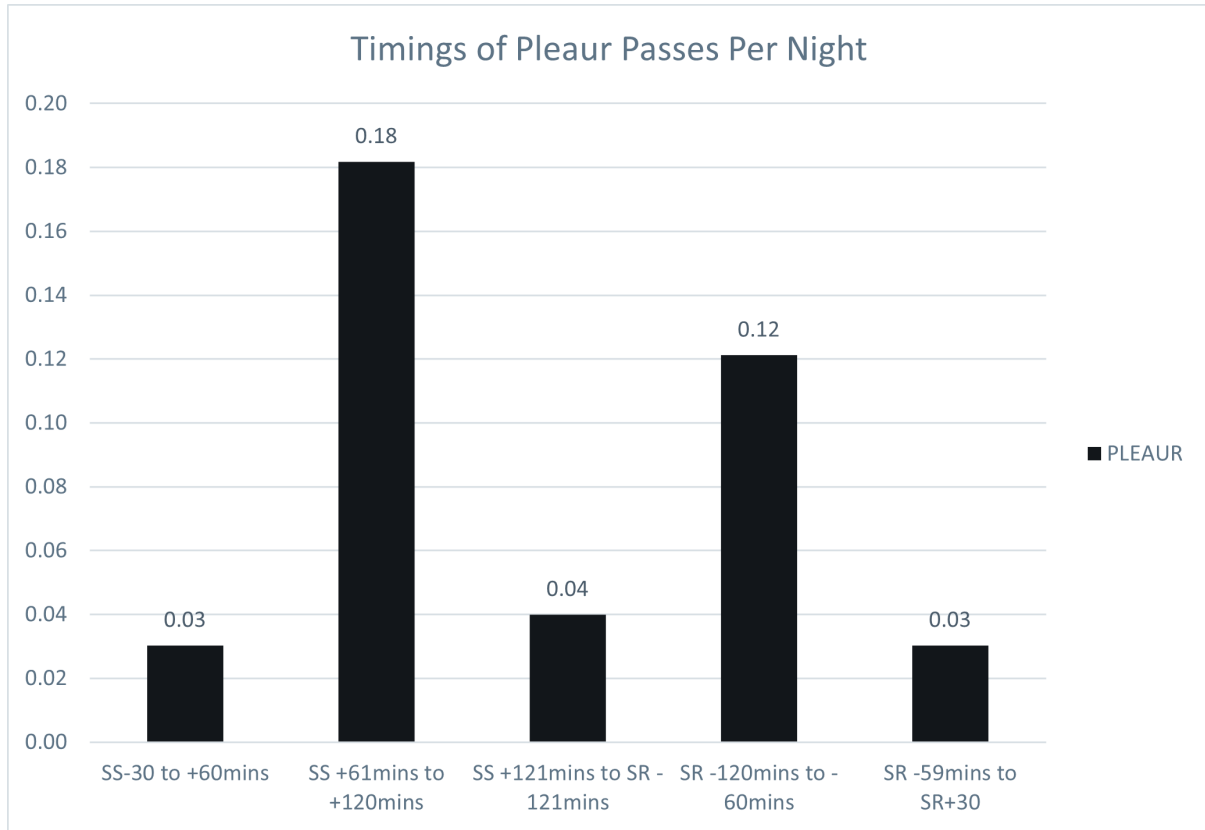
Month	April	May	June	July	August	September	October
Average PPN	0.20	0.00	1.60	1.20	0.83	0.00	0.16

1.2.351 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-67.

1.2.352 Activity peaked 61 minutes before sunset up to 120 minutes after recorded 0.18PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.12PPN. 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.04PPN whilst 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise up to 30 minutes after recorded the same lowest average for Point 1 with 0.03PPN.



Figure 1-67 – Timings of Brown Long-eared bat passes per night within Location Point 1



Location Point 2

1.2.353 A total of 101 Brown Long-eared bat passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 2.66PPN.

1.2.354 Monthly activity levels are presented in Table 1-71.

1.2.355 Brown Long-eared bat activity within the month of July at Point 2 recorded the highest peak throughout all other locations with 10.83PPN. September recorded 2.80PPN whilst August recorded 2.66PPN. October recorded 0.83PPN, however, June recorded the lowest average within Point 2 for the species with 0.20PPN. The month of April and May recorded no Brown Long-eared bat activity.



Table 1-71 – Brown Long-eared bat average PPN within Point 2 throughout all survey months

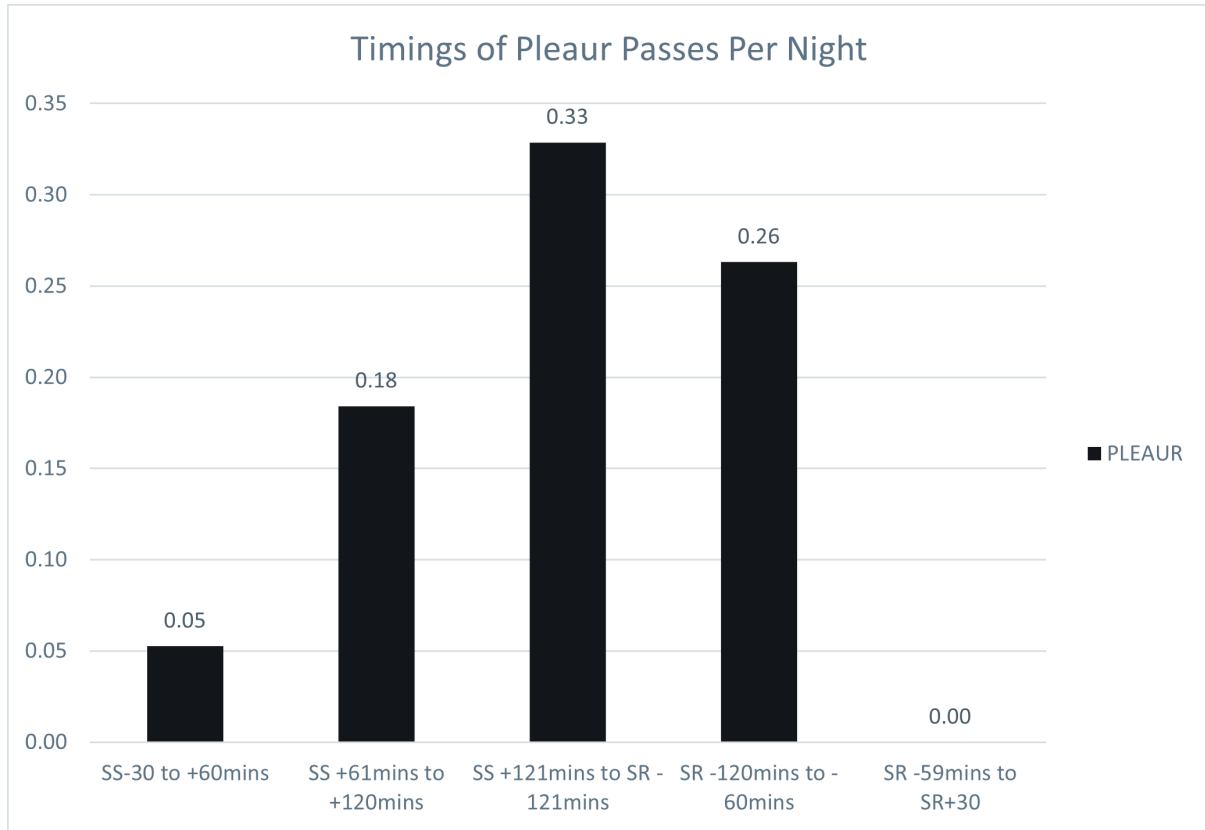
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.20	10.83	2.66	2.80	0.83

1.2.356 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-68.

1.2.357 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise with an average of 0.33PPN whilst 120 minutes before sunrise up to 60 minutes after recorded an average of 0.26PPN. 61 minutes before sunset up to 120 minutes after recorded 0.18PPN whilst 30 minutes before sunset and up to 60 minutes after recorded the lowest average for the species at Point 2 with 0.05PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-68 – Timings of Brown Long-eared bat passes per night within Location Point 2



Location Point 3

1.2.358 A total of 20 Brown Long-eared bat passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 0.53PPN.

1.2.359 Monthly activity levels are presented in Table 1-72.

1.2.360 Brown Long-eared bat activity within the month of August at Point 3 recorded the highest peak throughout all other locations with 1.83PPN. July recorded the lowest average within Point 3 for the species with 1.50PPN. The month of April, May, June, September, and October recorded no Brown Long-eared bat activity.



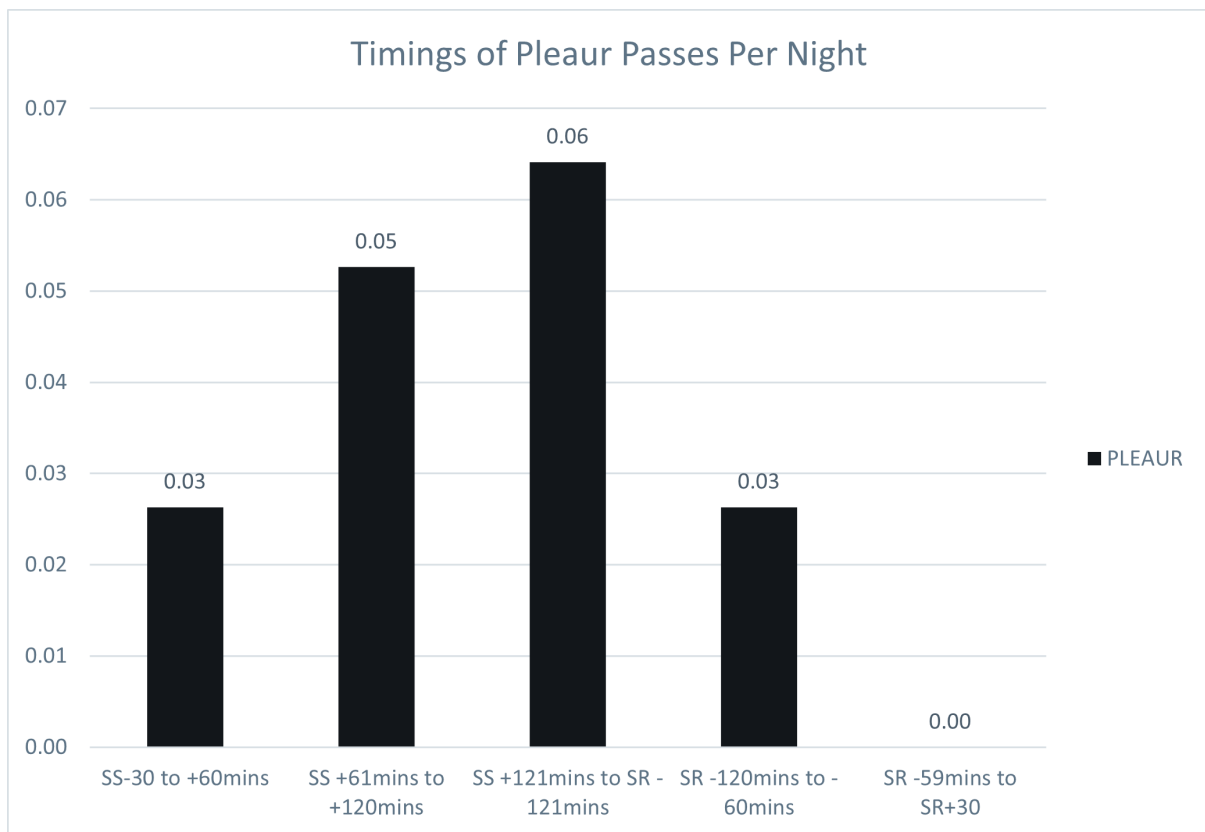
Table 1-72 – Brown Long-eared bat average PPN within Point 3 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	1.50	1.83	0.00	0.00

1.2.361 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-69.

1.2.362 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise with an average of 0.06PPN whilst 61 minutes before sunset up to 120 minutes after recorded 0.05PPN. 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after recorded the lowest average for the species with 0.03PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-69 – Timings of Brown Long-eared bat passes per night within Location Point 3





Location Point 4

1.2.363 A total of 72 Brown Long-eared bat passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 1.89PPN.

1.2.364 Monthly activity levels are presented in Table 1-73.

1.2.365 Brown Long-eared bat activity within the month of October at Point 4 recorded the highest peak throughout all other locations with 7.16PPN August recorded 2.83PPN whilst June recorded 1.20PPN. July recorded 0.66PPN, however, September recorded the lowest average within Point 4 for the species with 0.40PPN. The month of April and May recorded no Brown Long-eared bat activity.

Table 1-73 – Brown Long-eared bat average PPN within Point 4 throughout all survey months

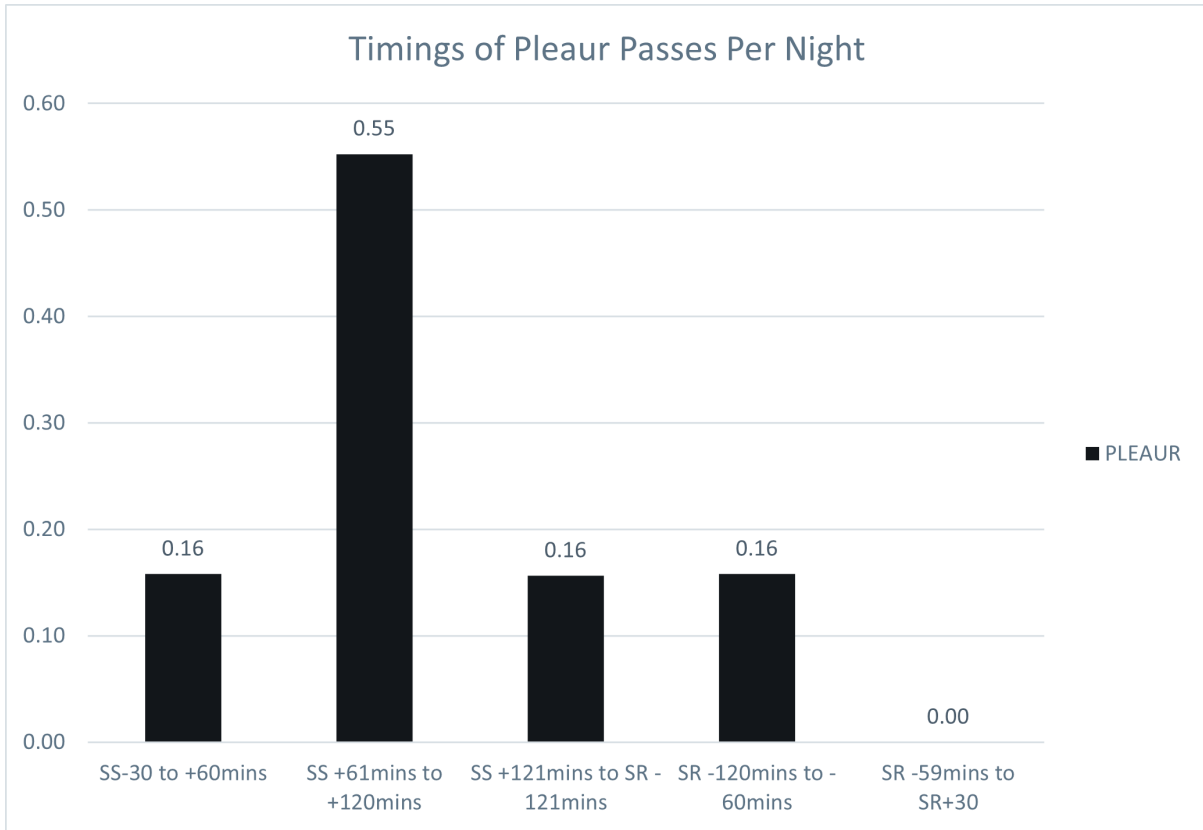
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	1.20	0.66	2.83	0.40	7.16

1.2.366 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-70.

1.2.367 Activity peaked 61 minutes before sunset up to 120 minutes after with a recorded 0.55PPN. 30 minutes before sunset and up to 60 minutes after, 121 minutes after sunset and up to 121 minutes after sunrise, and 120 minutes before sunrise up to 60 minutes after recorded the same lowest average at Point 4 for the species with 0.16PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-70 – Timings of Brown Long-eared bat passes per night within Location Point 4



Location Point 5

1.2.368 A total of 53 Brown Long-eared bat passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 1.39PPN.

1.2.369 Monthly activity levels are presented in Table 1-74.

1.2.370 Brown Long-eared bat activity within the month of October at Point 5 recorded the highest peak throughout all other locations with 3.33PPN. August recorded 2.50PPN whilst September recorded 2.00PPN. July recorded 1.16PPN, however, June recorded the lowest average within Point 5 for the species with 0.20PPN. The month of April and May recorded no Brown Long-eared bat activity.



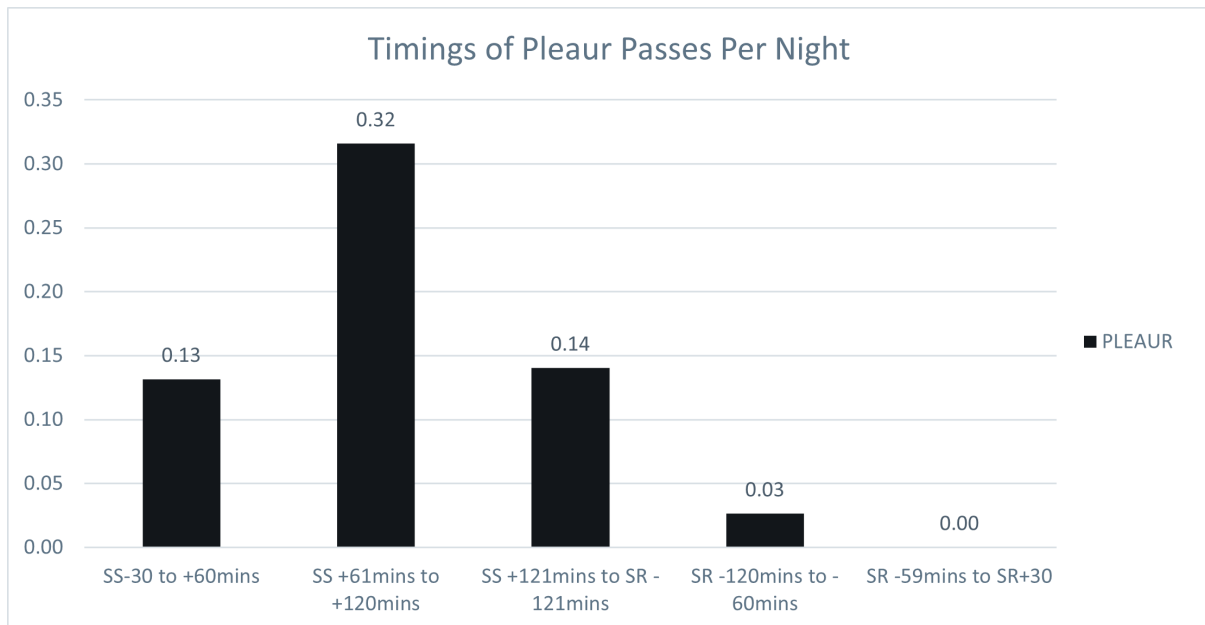
Table 1-74 – Brown Long-eared bat average PPN within Point 5 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.20	1.16	2.50	2.00	3.33

1.2.371 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-71.

1.2.372 Activity peaked 61 minutes before sunset up to 120 minutes after with a recorded 0.32PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.14PPN. 30 minutes before sunset and up to 60 minutes after recorded 0.13PPN while 120 minutes before sunrise up to 60 minutes after recorded the lowest average at Point 5 with 0.03PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-71 – Timings of Brown long-eared bat passes per night within Location Point 5





Location Point 6

1.2.373 A total of 18 Brown Long-eared bat passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 0.47PPN.

1.2.374 Monthly activity levels are presented in Table 1-75.

1.2.375 Brown Long-eared bat activity within the month of September at Point 6 recorded the highest peak throughout all other locations with 1.20PPN. August recorded 1.16PPN whilst October recorded 0.50PPN. July recorded the lowest average within Point 5 for the species with 0.33PPN. The month of April, May, and June recorded no Brown Long-eared bat activity.

Table 1-75 – Brown Long-eared bat average PPN within Point 6 throughout all survey months

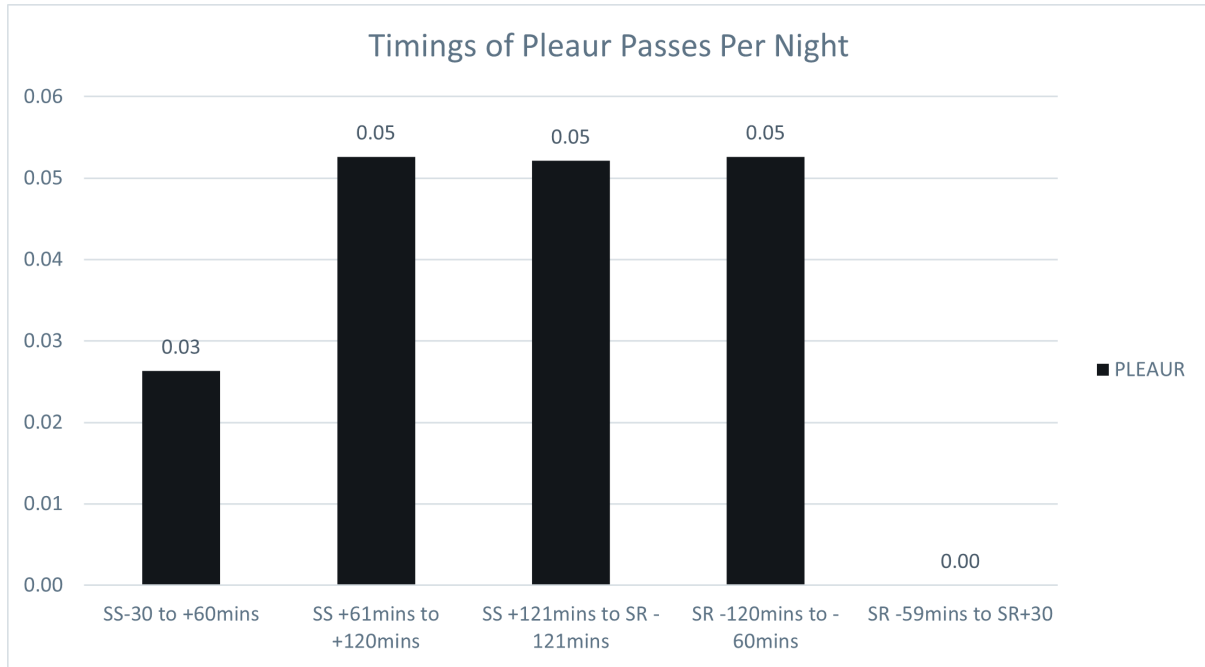
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.33	1.16	1.20	0.50

1.2.376 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-72.

1.2.377 61 minutes before sunset up to 120 minutes after, 121 minutes after sunset and up to 121 minutes after sunrise, and 120 minutes before sunrise up to 60 minutes after recorded the same peak in species activity with an average of 0.05PPN. 30 minutes before sunset and up to 60 minutes after recorded the lowest average at Point 6 with 0.03PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-72 – Timings of Brown Long-eared bat passes per night within Location Point 6



Location Point 7

1.2.378 A total of 33 Brown Long-eared bat passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 0.87PPN.

1.2.379 Monthly activity levels are presented in Table 1-76.

1.2.380 Brown Long-eared bat activity within the month of August at Point 7 recorded the highest peak throughout all other locations with 4.00PPN. September recorded 0.60PPN whilst June recorded 0.40PPN. July and October recorded the lowest average within Point 7 for the species with 0.33PPN. The month of April and May recorded no Brown Long-eared bat activity.

Table 1-76 – Brown Long-eared bat average PPN within Point 7 throughout all survey months

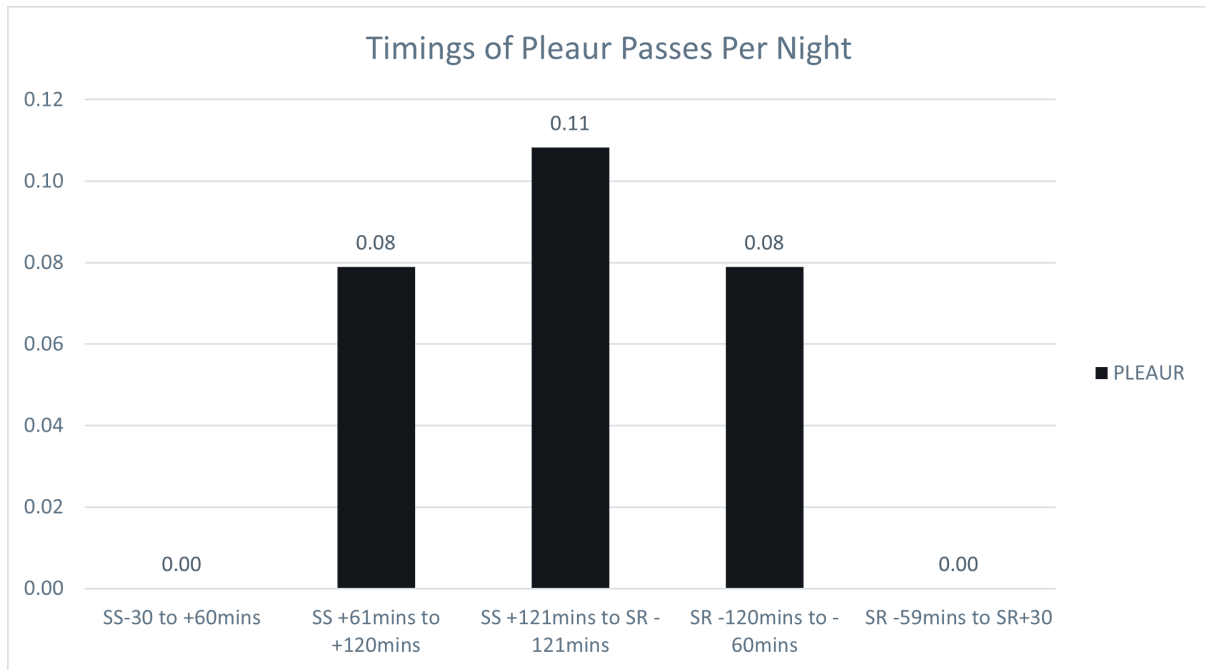
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.40	0.33	4.00	0.60	0.33



1.2.381 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-73.

1.2.382 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise with 0.11PPN. 61 minutes before sunset up to 120 minutes after, and 120 minutes before sunrise up to 60 minutes after recorded the same species activity with an average of 0.08PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-73- Timings of Brown Long-eared bat passes per night within Location Point 7



Location Point 8

1.2.383 A total of 31 Brown Long-eared bat passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 0.84PPN.

1.2.384 Monthly activity levels are presented in Table 1-77.

1.2.385 Brown Long-eared bat activity within the month of August at Point 8 recorded the highest peak throughout all other locations with 3.66PPN September recorded 0.75PPN whilst July recorded 0.66PPN. June recorded 0.20PPN



whilst October recorded the lowest average within Point 8 for the species with 0.16PPN. The month of April and May recorded no Brown Long-eared bat activity.

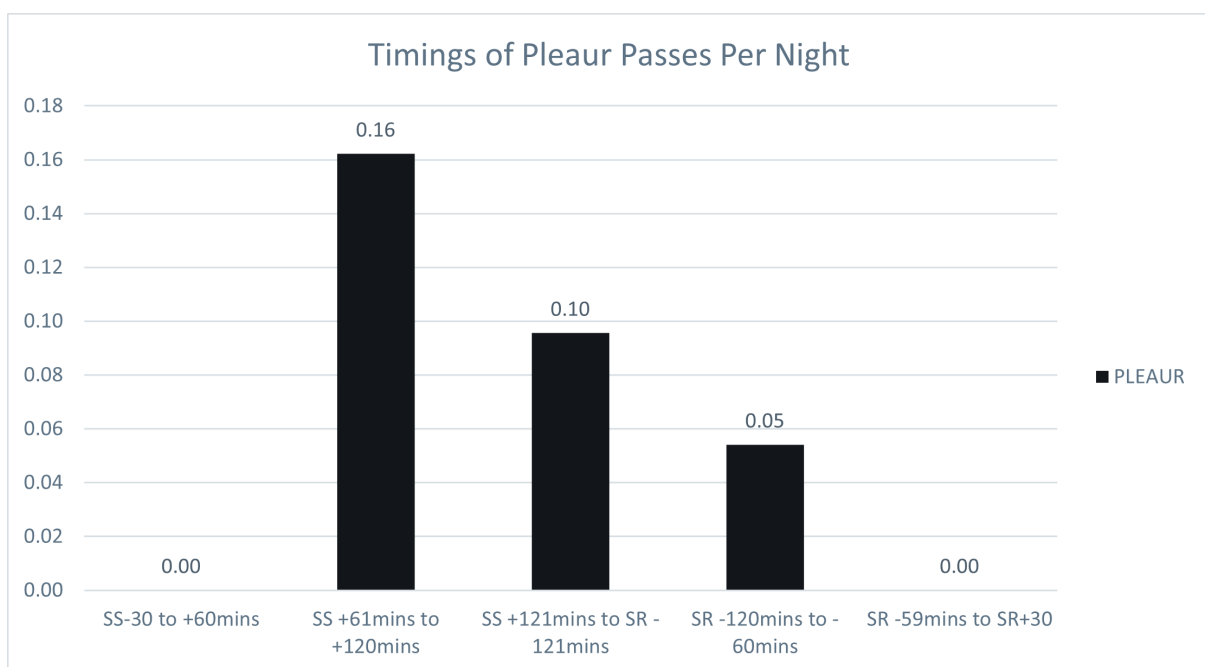
Table 1-77 – Brown Long-eared bat average PPN within Point 8 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.20	0.66	3.66	0.75	0.16

1.2.386 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-74.

1.2.387 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.16PPN while 121 minutes after sunset and up to 121 minutes after sunrise with 0.10PPN. The lowest activity was recorded 120 minutes before sunrise up to 60 minutes after with 0.05PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-74 – Timings of Brown Long-eared bat passes per night within Location Point 8





Location Point 9

1.2.388 A total of 83 Brown Long-eared bat passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 2.18PPN.

1.2.389 Monthly activity levels are presented in Table 1-78.

1.2.390 Brown Long-eared bat activity within the month of September at Point 9 recorded the highest peak throughout all other locations with 5.00PPN July recorded 4.50PPN whilst August recorded 3.00PPN. June recorded 1.20PPN whilst October recorded the lowest average within Point 9 for the species with 1.16PPN. The month of April and May recorded no Brown Long-eared bat activity.

Table 1-78 – Brown Long-eared bat average PPN within Point 9 throughout all survey months

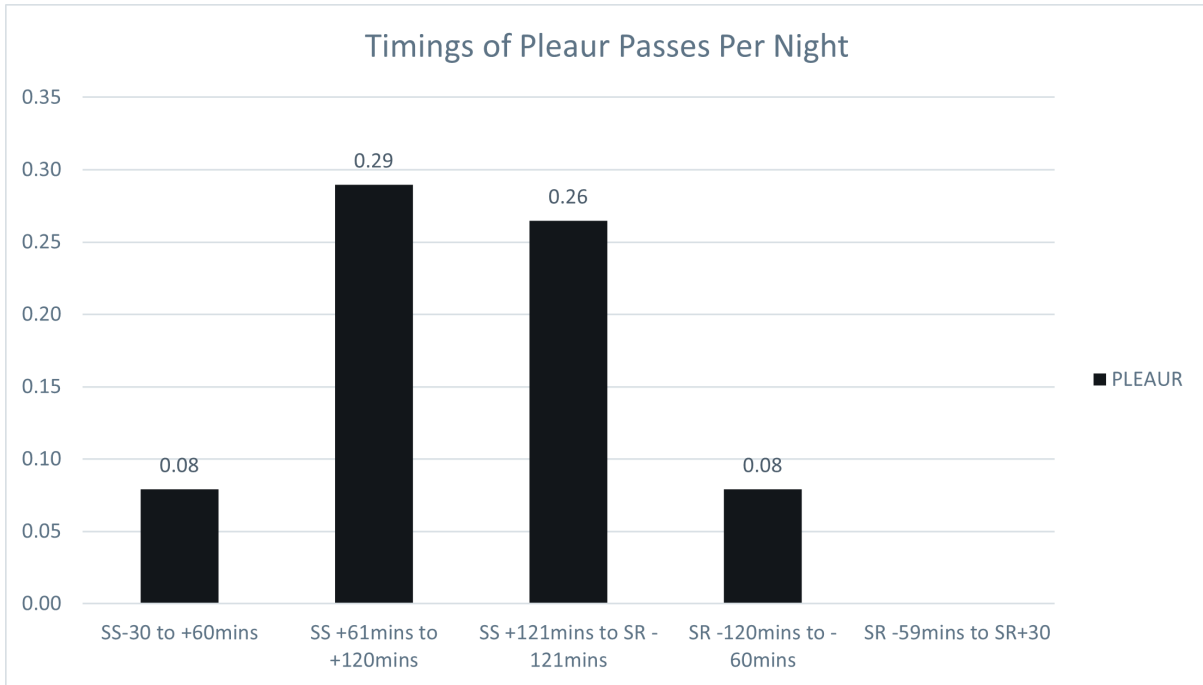
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	1.20	4.50	3.00	5.00	1.16

1.2.391 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-74.

1.2.392 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.29PPN while 121 minutes after sunset and up to 121 minutes after sunrise with 0.26PPN. The lowest activity was recorded 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after with 0.08PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-75 – Timings of Brown Long-eared bat passes per night within Location Point 9



Location Point 10

1.2.393 A total of eight Brown Long-eared bat passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 0.24PPN.

1.2.394 Monthly activity levels are presented in Table 1-79.

1.2.395 Brown Long-eared bat activity within the month of September at Point 10 recorded the highest peak throughout all other locations with 1.00PPN October recorded the lowest average within Point 10 for the species with 0.50PPN. The month of April, May, June, July, and August recorded no Brown Long-eared bat activity.

Table 1-79 – Brown Long-eared bat average PPN within Point 10 throughout all survey months

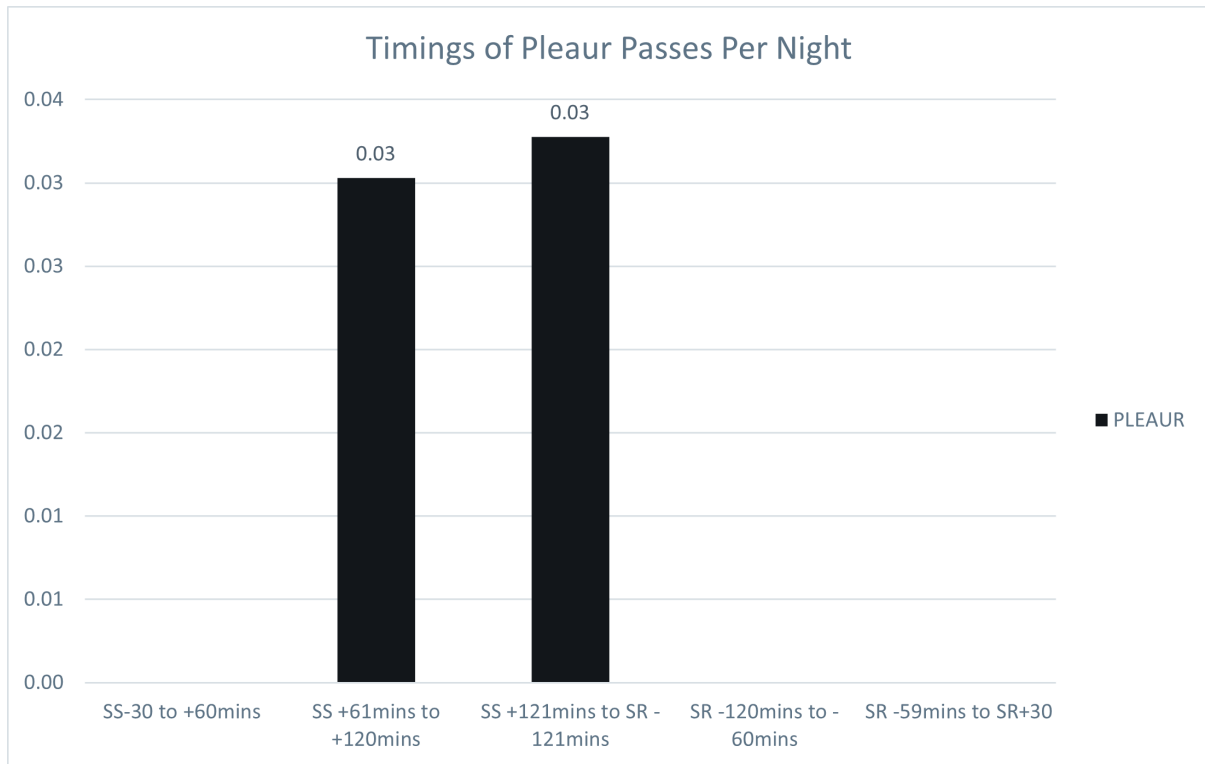
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.00	0.00	1.00	0.50



1.2.396 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-76.

1.2.397 61 minutes before sunset up to 120 minutes after and 121 minutes after sunset and up to 121 minutes after sunrise recorded the same peak average within Point 10 with 0.03PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after, and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-76 – Timings of brown long-eared bat passes per night within Location Point 10



Location Point 11

1.2.398 A total of 13 Brown Long-eared bat passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 0.45PPN.

1.2.399 Monthly activity levels are presented in Table 1-80.



1.2.400 Brown Long-eared bat activity within the month of August at Point 11 recorded the highest peak throughout all other locations with 0.83PPN. September recorded 0.60PPN whilst June and July recorded 0.33PPN. October recorded the lowest average within Point 11 for the species with 0.16PPN. The month of April and May recorded no Brown Long-eared bat activity.

Table 1-80 – Brown long-eared bat average PPN within Point 11 throughout all survey months

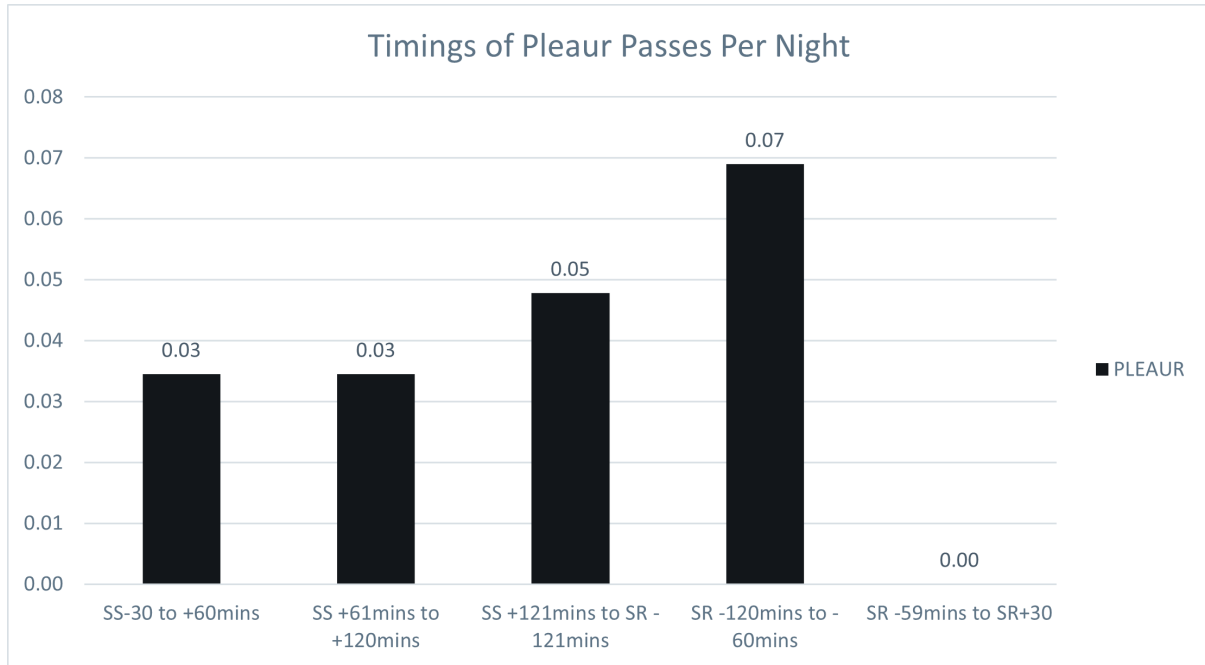
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.33	0.33	0.83	0.60	0.16

1.2.401 Brown Long-eared bat activity was recorded on the static detectors at varying times presented in Figure 1-77.

1.2.402 Activity peaked 120 minutes before sunrise up to 60 minutes after with 0.07PPN whilst 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.05PPN. The lowest activity was detected 30 minutes before sunset and up to 60 minutes after and 61 minutes before sunset up to 120 minutes after recorded 0.03PPN. Notably, 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-77 – Timings of brown long-eared bat passes per night within Location Point 11



Serotine

Location Point 1

1.2.403 Throughout the detector deployment within 2021, Serotine bats were not recorded within any month within Point 1.

Location Point 2

1.2.404 A total of 37 Serotine bat passes were recorded at Point 2 throughout the detector deployment in 2021, which equates to an average of 0.97PPN.

1.2.405 Monthly activity levels are presented in Table 1-81.

1.2.406 Serotine bat activity within the month of August at Point 2 recorded the highest peak throughout all other locations with 5.83PPN. June recorded 0.20PPN whilst April and September recorded 0.16PPN. The month of May and October recorded no Serotine bat activity.



Table 1-81 – Serotine average PPN within Point 2 throughout all survey months

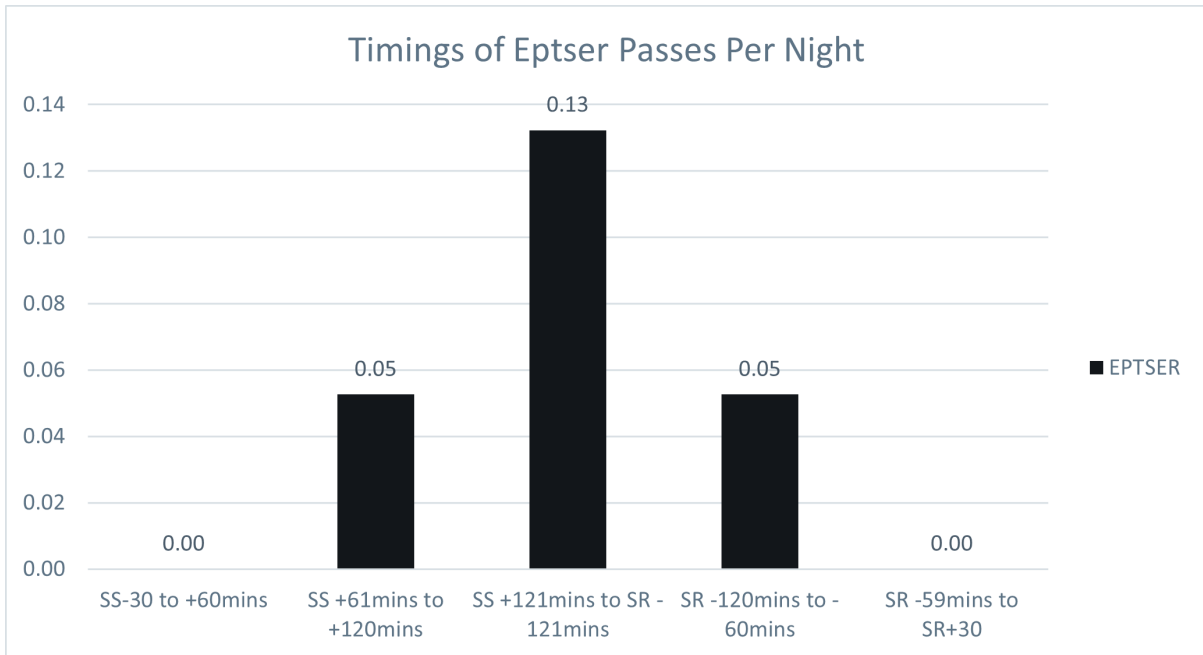
Month	April	May	June	July	August	September	October
Average PPN	0.16	0.00	0.20	0.00	5.83	0.16	0.00

1.2.407 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-78.

1.2.408 Activity peaked 121 minutes after sunset and up to 121 minutes after sunrise recorded 0.13PPN. 61 minutes before sunset up to 120 minutes after and 120 minutes before sunrise up to 60 minutes after recorded the same average with 0.05PPN. Notably, 30 minutes before sunset and up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-78 – Timings of Serotine passes per night within Location Point 2



Location Point 3

1.2.409 A total of 11 Serotine bat passes were recorded at Point 3 throughout the detector deployment in 2021, which equates to an average of 0.29PPN.

1.2.410 Monthly activity levels are presented in Table 1-82.

1.2.411 Serotine bat activity within the month of July at Point 3 recorded the highest peak throughout all other locations with 1.33PPN. August recorded 0.33PPN whilst May recorded the lowest average within Point 3 for the species with 0.20PPN. The month of April, September, and October recorded no Serotine bat activity.

Table 1-82 – Serotine average PPN within Point 3 throughout all survey months

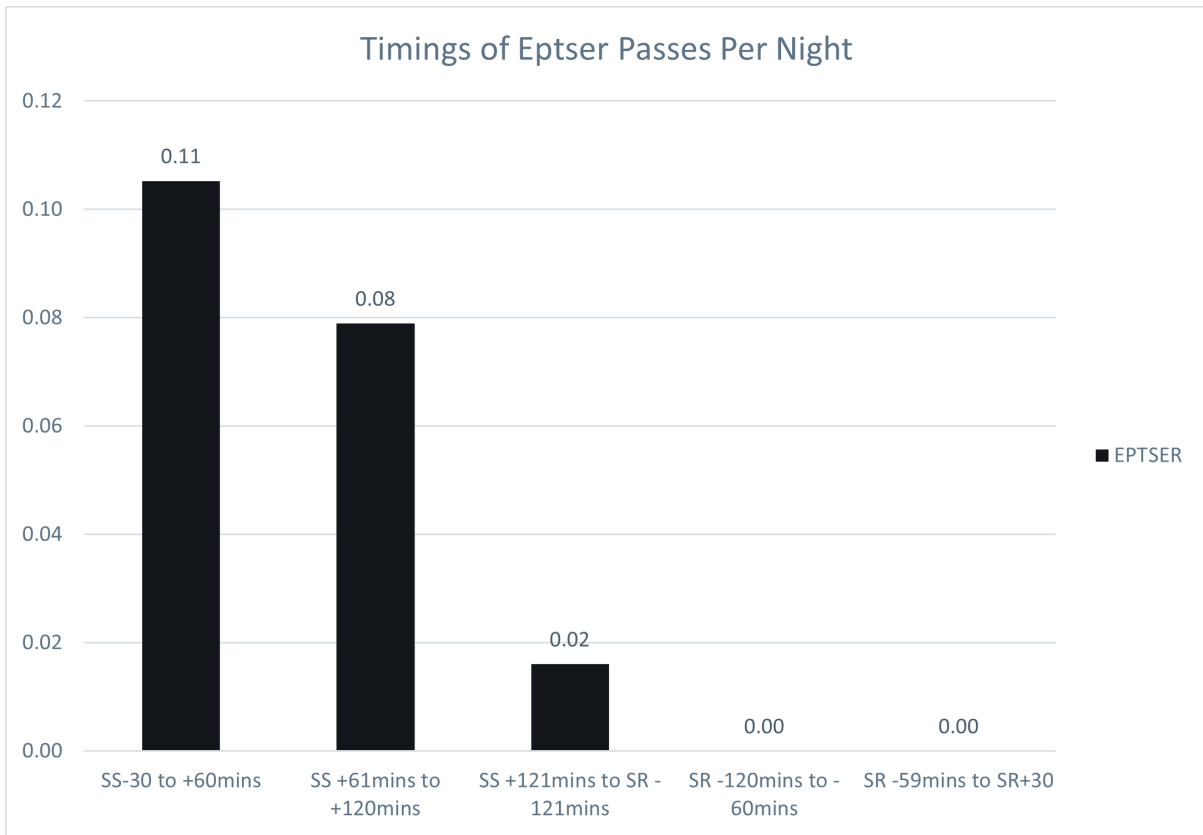
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.00	1.33	0.33	0.00	0.00

1.2.412 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-79.



1.2.413 Activity peaked 30 minutes before sunset and up to 60 minutes after with 0.11PPN whilst. 61 minutes before sunset up to 120 minutes after recorded 0.08PPN. The lowest average within Point 3 was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.02PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-79 – Timings of Serotine passes per night within Location Point 3



Location Point 4

1.2.414 A total of four Serotine bat passes were recorded at Point 4 throughout the detector deployment in 2021, which equates to an average of 0.11PPN.

1.2.415 Monthly activity levels are presented in Table 1-83.

1.2.416 Serotine bat activity within the month of July at Point 4 recorded the highest peak throughout all other locations with 0.33PPN. May and June recorded the same average of 0.20PPN. The month of April, August, September, and October recorded no Serotine bat activity.



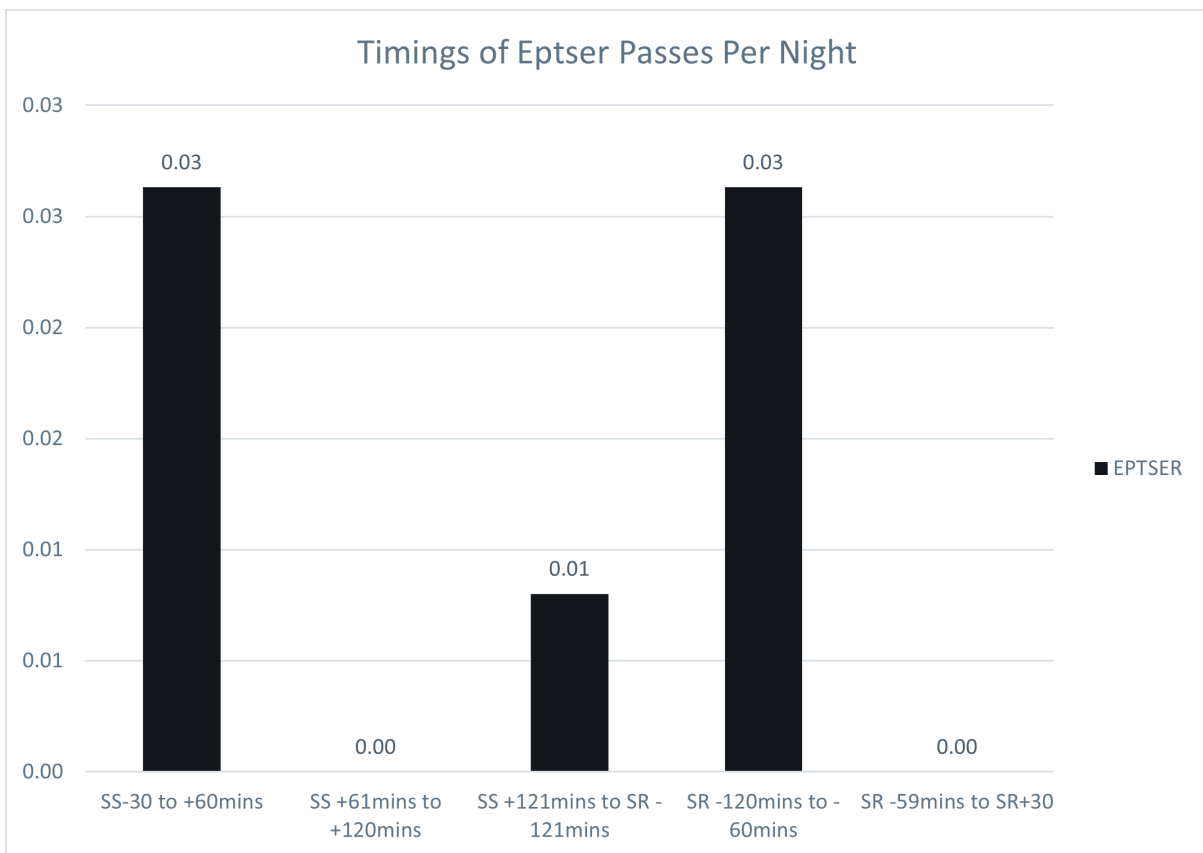
Table 1-83 – Serotine average PPN within Point 4 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.20	0.33	0.00	0.00	0.00

1.2.417 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-80.

1.2.418 Activity peaked 30 minutes before sunset and up to 60 minutes after and 120 minutes before sunrise up to 60 minutes after with 0.03PPN. The lowest activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.01PPN. Notably, 61 minutes before sunset up to 120 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-80 – Timings of Serotine passes per night within Location Point 4





Location Point 5

1.2.419 A total of 43 Serotine bat passes were recorded at Point 5 throughout the detector deployment in 2021, which equates to an average of 1.13PPN.

1.2.420 Monthly activity levels are presented in Table 1-84.

1.2.421 Serotine bat activity within the month of August at Point 5 recorded the highest peak throughout all other locations with 6.50PPN September recorded 0.40PPN whilst July recorded the lowest average within Point 5 for the species with 0.33PPN. The month of April, May, and October recorded no Serotine bat activity.

Table 1-84 – Serotine average PPN within Point 5 throughout all survey months

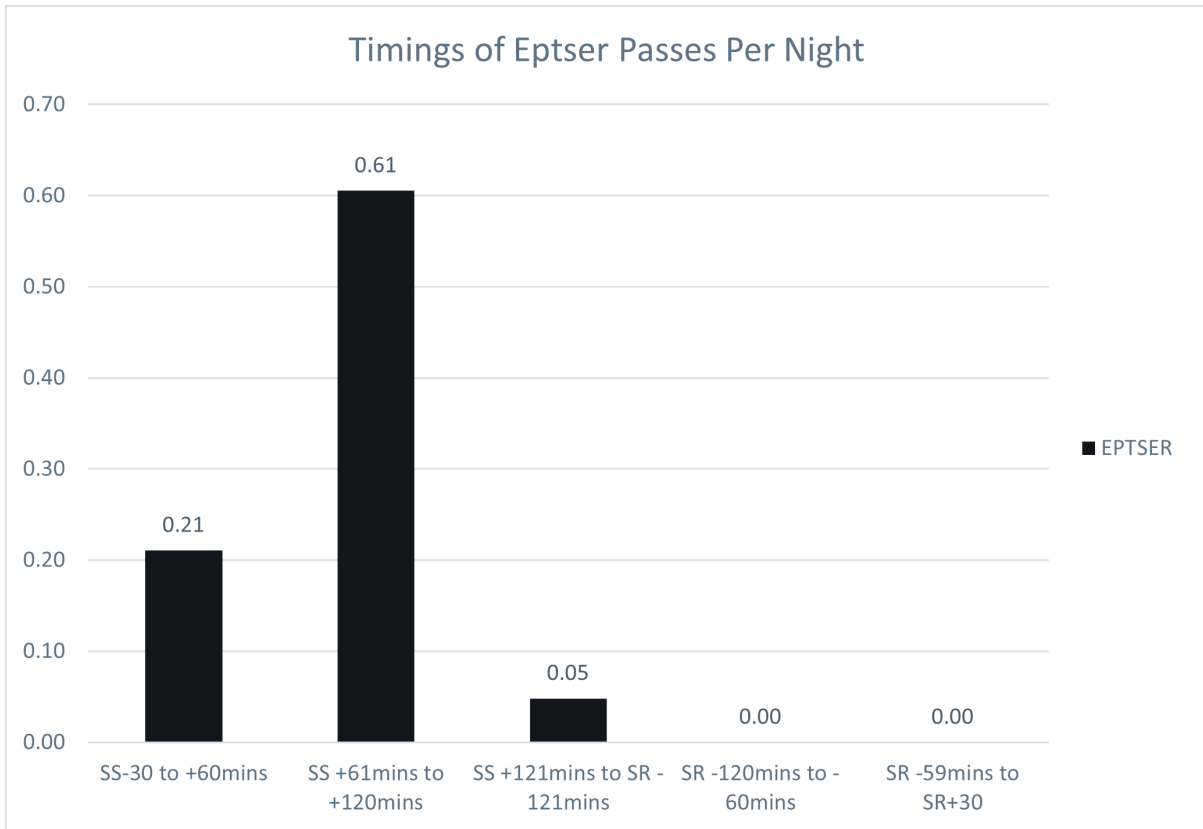
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.33	6.50	0.40	0.00

1.2.422 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-81.

1.2.423 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.61PPN whilst 30 minutes before sunset and up to 60 minutes after with 0.21PPN. The lowest activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.05PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-81 – Timings of Serotine passes per night within Location Point 5



Location Point 6

1.2.424 A total of 33 Serotine bat passes were recorded at Point 6 throughout the detector deployment in 2021, which equates to an average of 0.87PPN.

1.2.425 Monthly activity levels are presented in Table 1-85.

1.2.426 Serotine bat activity within the month of August at Point 6 recorded the highest peak throughout all other locations with 5.16PPN. July recorded 0.33 whilst the months of April, May, June, September, and October recorded no Serotine bat activity.

Table 1-85 – Serotine average PPN within Point 6 throughout all survey months

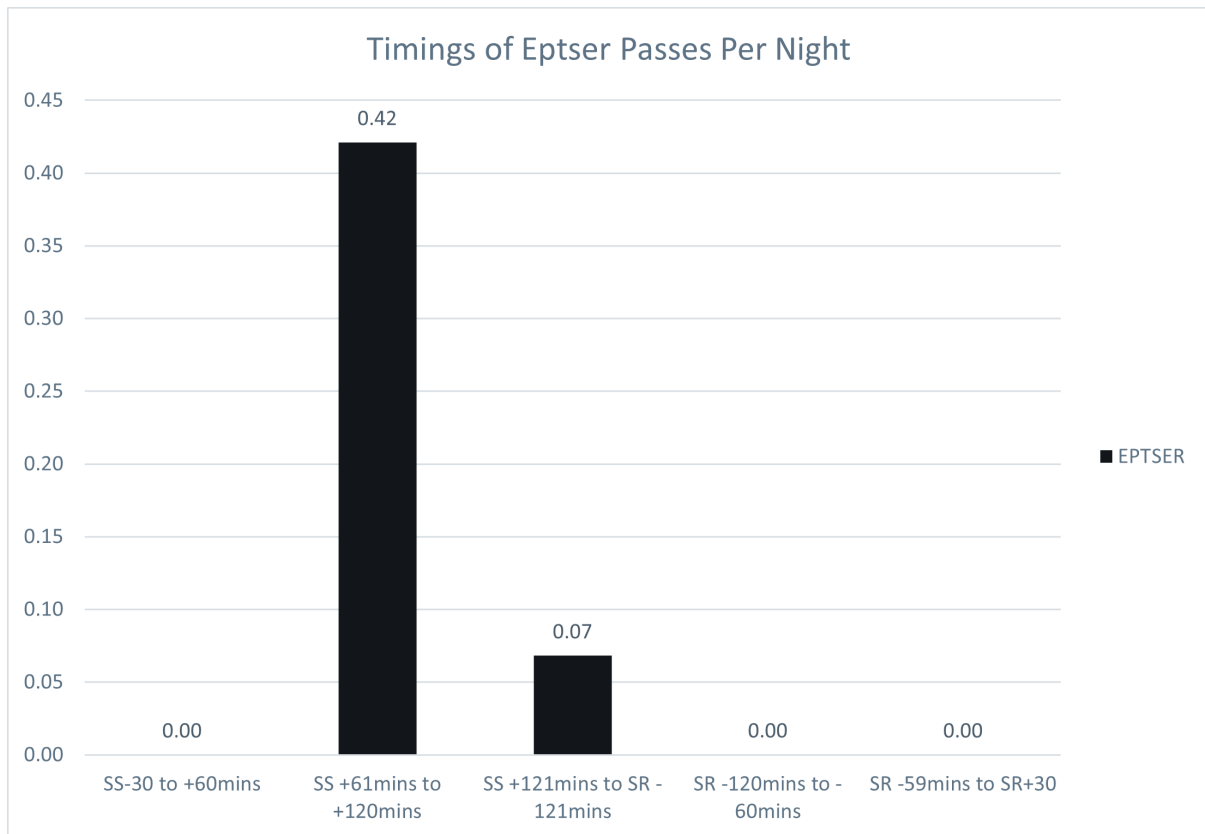
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.33	5.16	0.00	0.00



1.2.427 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-82.

1.2.428 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.42PPN whilst the lowest activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.07PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-82 – Timings of Serotine passes per night within Location Point 6



Location Point 7

1.2.429 A total of one Serotine bat passes were recorded at Point 7 throughout the detector deployment in 2021, which equates to an average of 0.03PPN.

1.2.430 Monthly activity levels are presented in Table 1-86.



1.2.431 Serotine bat activity at Point 7 was only recorded within the month of August with 0.16PPN. The months of April, May, June, July, September, and October recorded no Serotine bat activity.

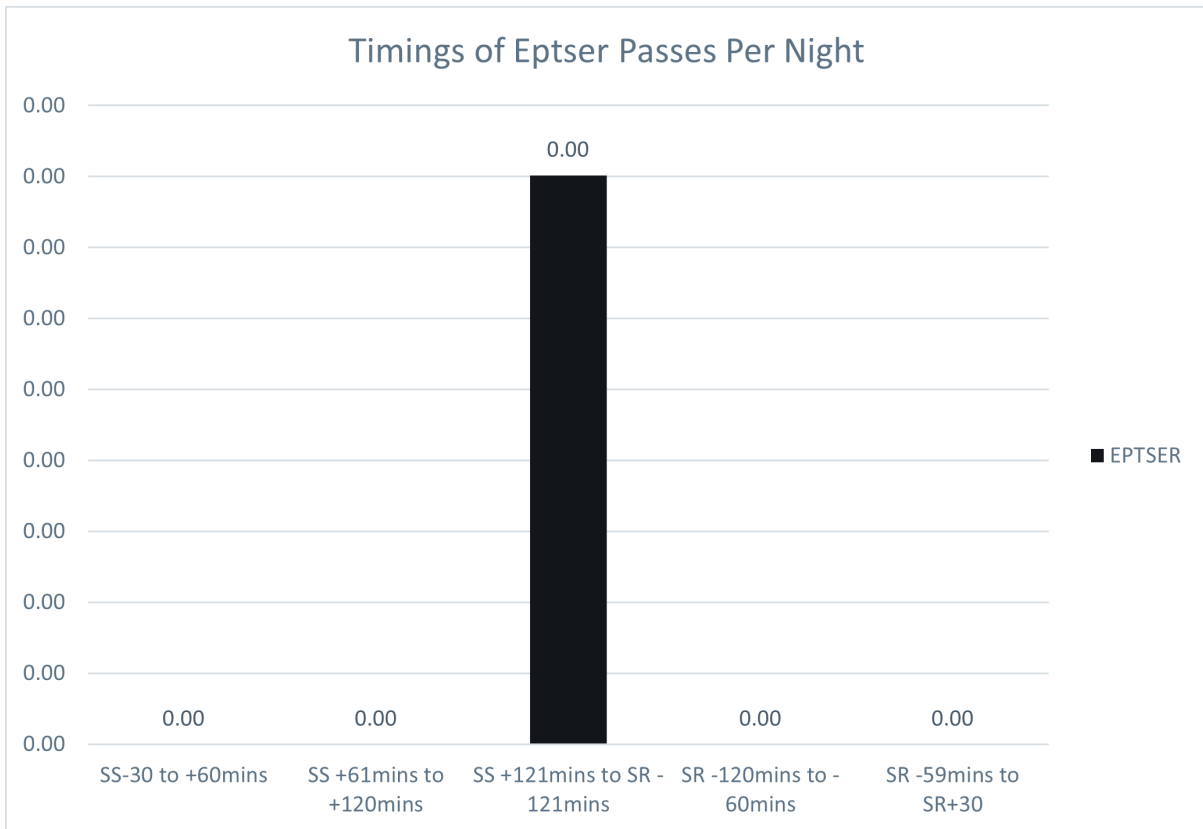
Table 1-86 – Serotine average PPN within Point 7 throughout all survey months

Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.00	0.16	0.00	0.00

1.2.432 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-83.

1.2.433 Activity was only recorded 121 minutes before sunset and up to 121 minutes after sunset with low activity numbers (<0.01PPN) being recorded, no other data was recorded at any other times.

Figure 1-83 – Timings of Serotine passes per night within Location Point 7





Location Point 8

1.2.434 A total of seven Serotine bat passes were recorded at Point 8 throughout the detector deployment in 2021, which equates to an average of 0.19PPN.

1.2.435 Monthly activity levels are presented in Table 1-87.

1.2.436 Serotine bat activity within the month of September at Point 8 recorded the highest peak throughout all other locations with 1.00PPN August recorded 0.33PPN whilst May recorded the lowest average within Point 8 for the species with 0.20PPN. The month of April, June, July, and October recorded no Serotine bat activity.

Table 1-87 – Serotine average PPN within Point 8 throughout all survey months

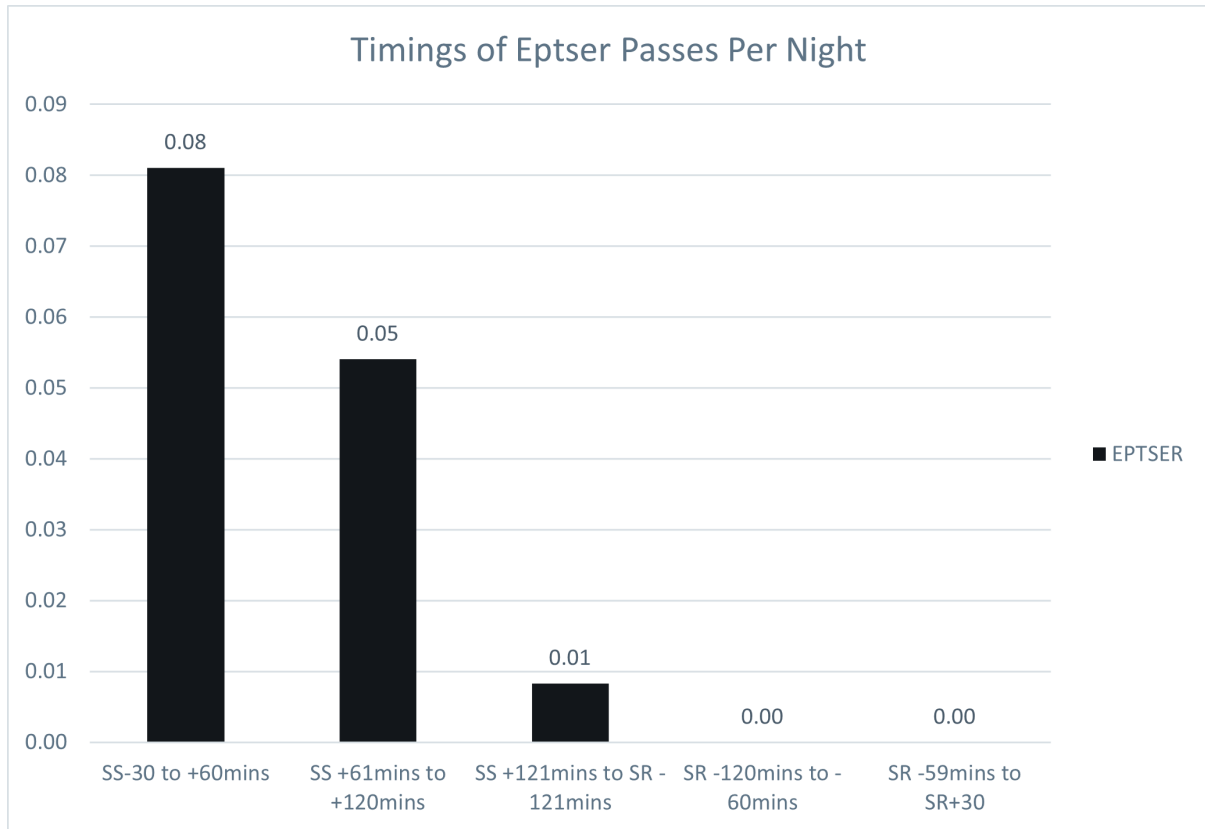
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.20	0.00	0.00	0.33	1.00	0.00

1.2.437 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-84.

1.2.438 Activity peaked 30 minutes before sunset and up to 60 minutes after with 0.08PPN whilst 61 minutes before sunset up to 120 minutes after with 0.05PPN. The lowest activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.01PPN. Notably, 120 minutes before sunrise up to 60 minutes after and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-84 – Timings of Serotine passes per night within Location Point 8



Location Point 9

1.2.439 A total of 12 Serotine bat passes were recorded at Point 9 throughout the detector deployment in 2021, which equates to an average of 0.32PPN.

1.2.440 Monthly activity levels are presented in Table 1-88.

1.2.441 Serotine bat activity within the month of July at Point 9 recorded the highest peak throughout all other locations with 1.33PPN. June recorded 0.40PPN whilst August recorded the lowest average within Point 9 for the species with 0.33PPN. The month of April, May, September, and October recorded no Serotine bat activity.

Table 1-88 – Serotine average PPN within Point 9 throughout all survey months

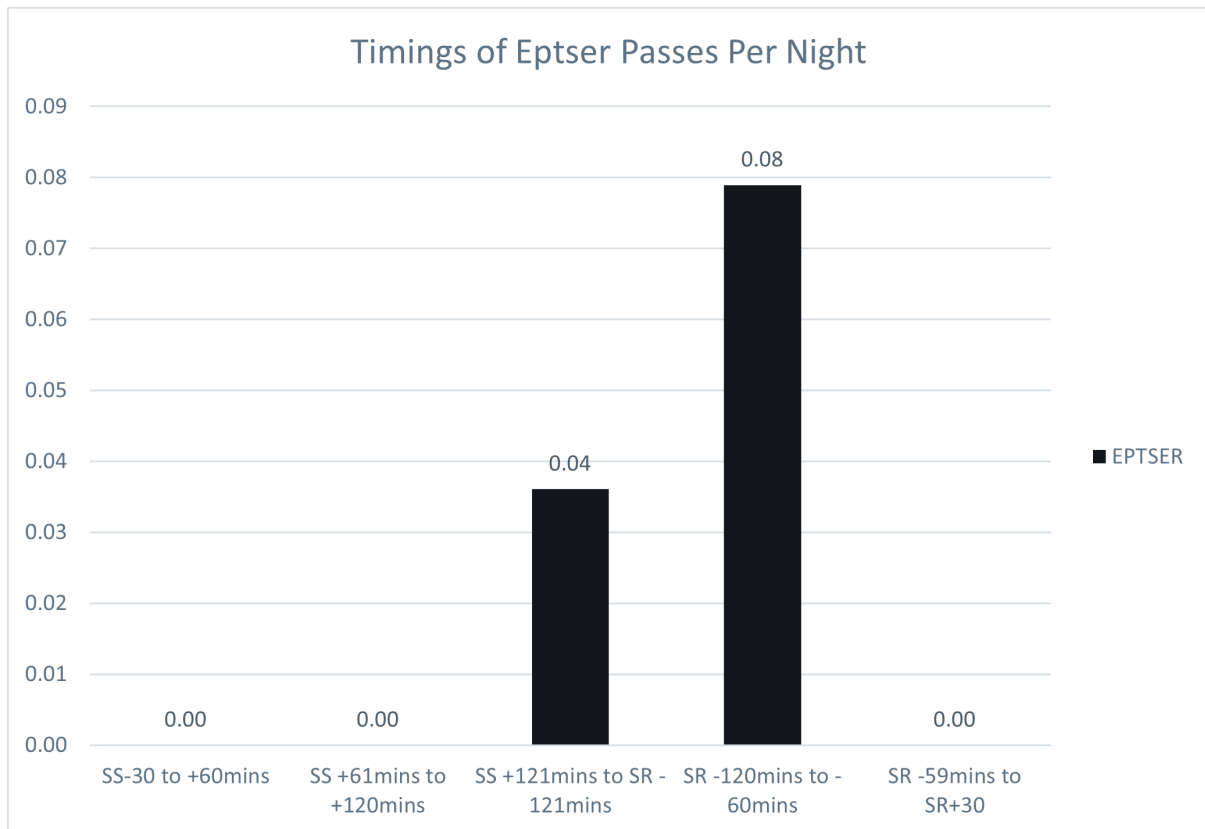
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.40	1.33	0.33	0.00	0.00



1.2.442 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-85.

1.2.443 Activity peaked 120 minutes before sunrise up to 60 minutes after with 0.08PPN whilst the lowest average activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.04PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 61 minutes before sunset up to 120 minutes after, and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-85 – Timings of Serotine passes per night within Location Point 9



Location Point 10

1.2.444 A total of three Serotine bat passes were recorded at Point 10 throughout the detector deployment in 2021, which equates to an average of 0.09PPN.

1.2.445 Monthly activity levels are presented in Table 1-89.



1.2.446 Serotine bat activity within the month of September at Point 10 recorded the highest peak throughout all other locations with 0.20PPN June and July recorded the same average with 0.16PPN whilst the months of April, May, August, and October recorded no Serotine bat activity.

Table 1-89 – Serotine average PPN within Point 10 throughout all survey months

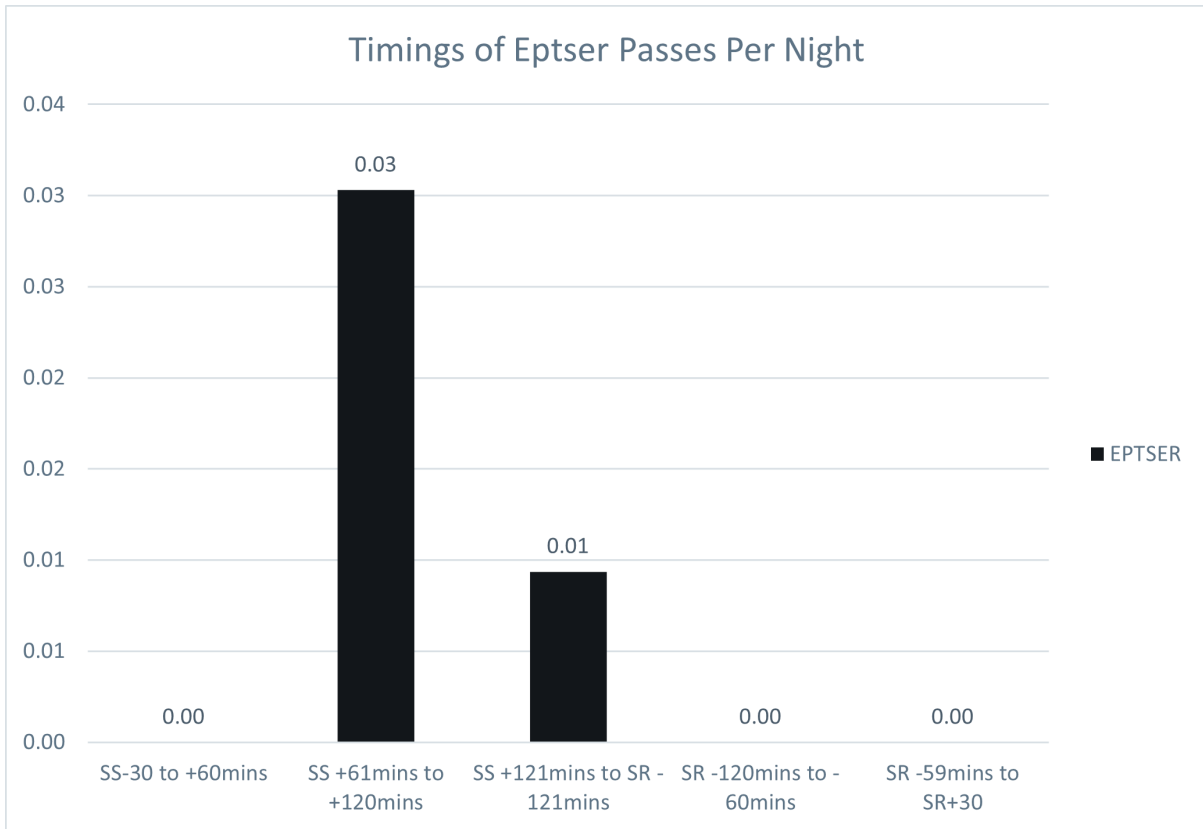
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.16	0.16	0.00	0.20	0.00

1.2.447 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-86.

1.2.448 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.03PPN whilst the lowest average activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.01PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after, and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.



Figure 1-86 – Timings of Serotine passes per night within Location Point 10



Location Point 11

1.2.449 A total of four Serotine bat passes were recorded at Point 11 throughout the detector deployment in 2021, which equates to an average of 0.14PPN.

1.2.450 Monthly activity levels are presented in Table 1-90.

1.2.451 Serotine bat activity within the month of July at Point 11 recorded the highest peak throughout all other locations with 0.50PPN. September recorded the lowest average within Point 11 for the species with 0.20PPN. The month of April, May, June, August, and October recorded no Serotine bat activity.

Table 1-90 – Serotine average PPN within Point 11 throughout all survey months

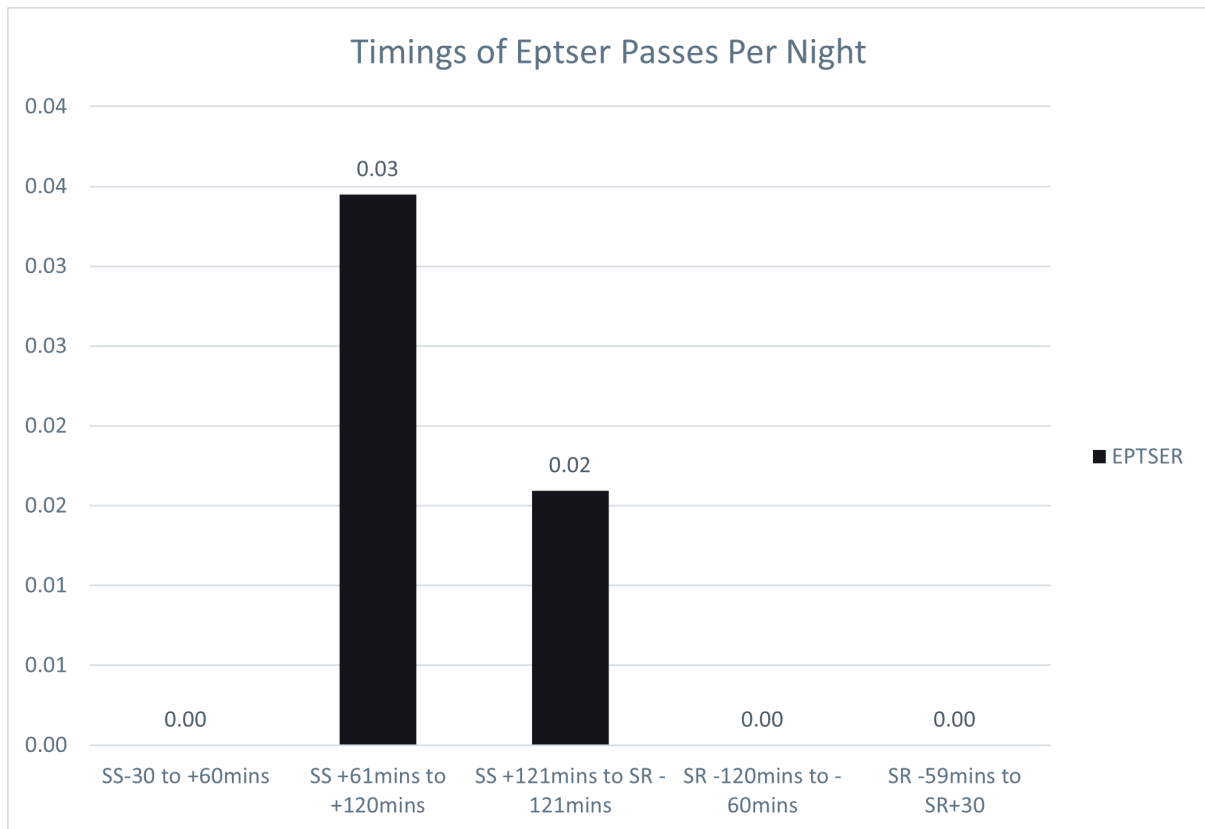
Month	April	May	June	July	August	September	October
Average PPN	0.00	0.00	0.00	0.50	0.00	0.20	0.00



1.2.452 Serotine activity was recorded on the static detectors at varying times presented in Figure 1-87.

1.2.453 Activity peaked 61 minutes before sunset up to 120 minutes after with 0.03PPN whilst the lowest average activity was recorded 121 minutes after sunset and up to 121 minutes after sunrise with 0.02PPN. Notably, 30 minutes before sunset and up to 60 minutes after, 120 minutes before sunrise up to 60 minutes after, and 59 minutes before sunrise and up to 30 minutes after recorded no species activity.

Figure 1-87 – Timings of Serotine passes per night within Location Point 11





1.3 References

- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.
- Russ, J. (2012). British Bat Calls: A Guide to Species Identification. London: Pelagic Publishing.
- WSP UK Ltd. (2021). WWHAR Environmental Impact Assessment Scoping.