







NORTHWOOD COLLEGE

2025 Bat Activity Survey Results

Girl's Day School Trust (GDST)

2484985-D03 (01)

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EXPERTS IN ECOLOGY

General Notes

Document ref.: 2484985-D03 (01)

Title: [Northwood College for Girls – 2025 Bat Activity Survey Results]

Client: GDST

Date: October 2025

Office: Hemel Hempstead

Status: Final

Revision	Date	Comments/amendments	Prepared by	Checked by	Approved by
01	13/10/2025	Final	JP59	DF10	SH76

2025 Bat Activity Surveys Technical Note

1.1 Introduction

Purpose of this report

1.1.1 RSK Biocensus were commissioned by Nexus Planning Ltd, on behalf of GDST, in 2023 to complete bat activity and emergence surveys, and review lighting plans. The work relates to proposed installation of floodlighting at two multi-use games areas (MUGAS) at Northwood College for Girls, in the London Borough of Hillingdon (OS Grid Reference: TQ088913; Figure 1).

1.1.2 Our assessment and advice is based on the following information:

- At each MUGA, the lighting installation will consist of six LED floodlight projectors mounted on eight metre high collapsible columns, with asymmetric optical control directing the beam downwards from a horizontal mounting position to the playing surface below (dpa lighting consultants, 2023).

The MUGA and floodlights (when required) will be used according to the following part night lighting (PNL) schedule:

- Monday to Friday: 09:00 – 21:00;
- Saturdays: 09:00 – 18:00;
- Sundays: 10:00 – 16:00;
- No use on Bank Holidays.

1.1.3 A common pipistrelle transient roost was confirmed at the school, outside the area of the proposed development, and was considered to be outside the scope of impacts. A tree with a potential roost feature was identified in the line of trees adjacent to MUGA 2. While no evidence of bat roosting has been confirmed, potential impacts of lighting on this tree have been considered as a precaution. It would be an offence under the Wildlife and Countryside Act 1981 to intentionally or recklessly obstruct any place used by a bat for shelter or protection. Light on a roost or associated flight lines may act as an obstruction in that context by delaying emergence from the roost (reducing the time bats have to feed) or, in extreme circumstances, by preventing a light-averse bat from being able to leave the roost at all. (ILP, 2023; Collins, 2023).

1.1.4 Activity surveys (RSK, 2023) showed that the site was in use by Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Nathusius' Pipistrelle (*Pipistrellus nathusii*), Serotine (*Eptesicus serotinus*), Noctule (*Nyctalus noctula*), Leisler's bat, myotis species (*Myotis* spp.), and Brown Long-eared Bat (*Plecotus auritus*).

1.1.5 Most of the bat calls recorded were from pipistrelles and other species considered to be, to an extent, tolerant of light (ILP, 2023). Bat calls from light-intolerant species (*Myotis* species and Brown Long-eared Bat), accounted for 0.49% of the total recorded, and were typically recorded several hours after sunset, indicating that these bats were likely roosting some distance from the site.

1.1.6 Due to a delay in submitting the planning application, the validity of these bat surveys has expired. RSK Biocensus has undertaken additional activity surveys in July and September 2025, in order to determine whether or not bat activity levels have changed since 2023.

Validity of data

1.1.7 According to guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2019), survey data are generally considered valid for a period of 12 to 18 months from the date of the first survey. Between 18 months and 3 years, a professional ecologist will need to undertake a site visit and may also need to update desk study information and review the validity of the survey reports.

1.2 Methods

1.2.1 Equipment used consisted of two Wildlife Acoustics SM4 bat detectors, with one at each MUGA, recording from 30 minutes before sunset until 30 minutes after sunrise, in line with industry guidelines (Collins, 2023). SM4s record ultrasonic audio data, which can then be analysed to identify bat species using full-spectrum bat analysis software, in this case the BTO Acoustic Pipeline.

1.2.2 Following identification of each sound file, these data were extracted and tabulated based on species and the time at which they were recorded. The dataset underwent an internal quality assurance process by an experienced ecologist, with analysis of a subset of 6.6% of the total data indicating a degree of confidence of 98.86%.

1.2.3 Files containing only background noise were identified, checked, then filtered out of the data for further analysis. In situations where a sound file had calls by more than one bat, these were attributed to each species present in the recording.

1.2.4 SM4 locations used for the July survey were the same as in the 2023 surveys, with the survey duration being 09 July to 16 July (Figure 2). The location of the SM4 at MUGA 2 was changed slightly in September, to be closer to the line of trees. The September survey took place from 03 September to 10 September. Weather conditions for these surveys were considered suitable, as shown in Table 1.

Table 1. Environmental conditions.

Night	Sunset	Rain	Highest ONT (°C)	Lowest ONT (°C)	Wind (mph)
Deployment 1 (July)					
09	21:17	None	20	15	2
10	21:17	None	20	16	2
11	21:16	None	21	16	2
12	21:15	None	19	15	5
13	21:14	None	21	18	7
14	21:13	None	15	14	6
15	21:12	None	16	14	11
Deployment 2 (September)					
03	19:43	None	15	13	7
04	19:40	None	13	11	4
05	19:38	None	14	11	2
06	19:36	None	17	13	6
07	19:34	None	15	13	4
08	19:31	None	12	8	1
09	19:27	None	15	13	7

Limitations

1.2.5 Bats in the Myotis genus have not been separated to the species level due to the difficulty in differentiating their calls. Proportionately, relatively low numbers of Myotis calls were recorded. As all Myotis species have an aversion to light, the entire genus is considered equally as vulnerable for the purposes of this report.

1.2.6 Static detectors cannot distinguish between large numbers of bats, and small numbers of bats making repeated passes. High levels of bat activity can be generated by a small number of foraging bats and individual bats close to a detector. This was considered during the interpretation of the survey results.

1.2.7 RSK Biocensus received instruction to undertake these surveys in late June, with the first dataset collected in July. Therefore, earlier months in the bat activity season of 2025 were not assessed. However, considering that the intention of this report is to serve as an update to existing data, this is unlikely to have a significant impact on the validity of the evaluation.

1.3 Results

1.3.1 The tables below summarise the data collected in 2025, separated by MUGA. These data are graphed as registrations per night, in Appendix A.

Table 2. Summary of bat activity at MUGA 1, across seven nights per deployment.

Species	Number of Registrations		Species % of Total	Genus % of Total
	Deployment 1	Deployment 2		
Common Pipistrelle	120	51	86.36%	96.97%
Soprano Pipistrelle	9	12	10.61%	
Noctule	1	-	0.51%	2.03%
Leisler's bat	-	3	1.52%	
Myotis	2	-	1.01%	1.01%
Total	132	66		

Table 3. Summary of bat activity at MUGA 2, across seven nights per deployment.

Species	Number of Registrations		Species % of Total	Genus % of Total
	Deployment 1	Deployment 2		
Common Pipistrelle	2776	1706	71.83%	99.23%
Soprano Pipistrelle	578	1132	27.40%	
Noctule	7	3	0.16%	0.30%
Leisler's bat	5	4	0.14%	
Myotis	6	3	0.14%	0.14%
Brown long-eared bat	2	18	0.32%	0.32%
Total	3,374	2,866		

Deployment 1: 09 July – 16 July

MUGA 1

1.3.2 At MUGA 1, a total of 132 bat calls were recorded. Of these, 1.52% were from light intolerant species, namely 2 *Myotis* passes at 23:49 on 11 July. The remaining registrations were from light-tolerant species, mostly Pipistrelles with 1 Noctule pass.

MUGA 2

1.3.3 At MUGA 2, a total of 3374 bat calls were recorded. Of these, 0.24% were from light intolerant bats, namely *Myotis sp.* and Brown Long-eared bat. The majority of the remaining passes were by Pipistrelles, with Noctule and Leisler's bats accounting for 12 registrations.

1.3.4 The 6 Myotis bat registrations occurred across 4 nights, and all of which were recorded between 23:48 and 03:21. The 2 Brown Long-eared Bat passes both occurred on 11 July, at 01:11 and at 02:38.

Deployment 2: 03 September – 10 September

MUGA 1

1.3.5 Across seven nights of recording, a total of 66 bat registrations were recorded. Calls were registered from Common Pipistrelle, Soprano Pipistrelle, and Leisler's bat. No species considered to be intolerant to light were recorded in September.

MUGA 2

1.3.6 Across seven nights of recording, a total of 2,988 sound files were recorded. 122 Noise files were filtered out, leaving 2,866 bat registrations from Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, *Myotis sp.*, and Brown Long-eared bat.

1.3.7 The *Myotis* passes occurred at 21:08 on 05 September, 02:54 on 08 September, and 00:05 on 09 September. The 18 Brown Long-eared bat passes occurred between the hours of 21:52 and 05:00, from 04 September to 09 September

1.4 Discussion

Bat Activity

1.4.1 The results of the 2025 survey are consistent with results from the 2023 surveys, offering no evidence to suggest that there have been any significant changes to the ways in which bats are using the site, since the 2023 surveys.

1.4.2 Throughout the surveys, MUGA 1 had lower levels of bat activity than MUGA 2. This result is consistent with those from 2023, and the higher activity at MUGA 2 is likely from bats using a line of trees on the boundary for foraging and commuting. MUGA 1 is surrounded by buildings, with limited foraging potential, and with a higher existing level of lighting (dpa lighting consultants, 2023a). The majority of the bat activity recorded is from species that are known to be more tolerant to light, namely pipistrelles, Serotine, Noctule, and Leisler's bats. Those species recorded that are less tolerant to light, the Myotis and Brown Long-eared Bat account for a small percentage of registrations, likely representing individuals commuting through the wider landscape.

Lighting Strategy

1.4.3 Following the recommendations of the 2023 survey report (RSK Biocensus, 2023), a consultation between Principal Ecologist DF10 and Noah Derrington of DPA Lighting took place. In this consultation, the impact of lighting on the line of trees adjacent to MUGA 2 was considered. The meeting included live modelling of the tree with bat roosting potential with maximum and proposed normal lighting at ground level, and a vertical plane model (identified as 6m from the MUGA boundary to match the expected boundary of the tree canopy) was created to see how the tree would be affected by the lighting at different heights. The results showed that, although the directional lighting from the luminaires provided between 5 and 10 lux at ground level, there was significantly more light on the tree due to reflected light from the playing surface, up to 50 lux in places. This meeting showed there was no practical way of bringing the additional lighting on the tree down to a level suitable for light-averse bats whilst the lights are in operation.

1.4.4 However, it should be taken into consideration that the tree with roosting potential is already subject to light spill from the current lighting, as are the bat flight lines to and from the tree. Light-averse bats accounted for approximately 0.5% of bat registrations at MUGA 2 across 31 survey nights in 2023, and 0.47% of registrations across 14 survey nights in 2025. Additionally, even in months with earlier sunsets, no registrations of light-averse species occurred prior to 21:00 , with few registrations before 22:00, both in 2023 and in 2025. The timing, and low numbers, of registrations by these light-averse species suggest that they primarily use the site for commuting through the landscape. Taking these factors into account, it is unlikely that the tree would be used by light-averse bats under its current situation and the additional light spill during the operating hours of the MUGA would not have a significant impact on these bats, assuming that the proposed PNL curfew at 21:00 is strictly enforced.

1.4.5 The commuting behaviour could be negatively impacted by the proposed lighting, if these bats were attempting to move through the trees whilst the flood lights are in operation. However, with light-intolerant species using the site infrequently, and generally later than the proposed PNL curfew, these bats are unlikely to be impacted negatively by the proposed development. Additionally, there are existing alternative commuting routes

through the landscape, that would be sheltered from light arising from the proposed development, according to the lighting plans (dpa, 2023a; dpa, 2023b). This would facilitate earlier commutes by light-averse species through the surrounding area in months with earlier sunsets, if required.

1.5 Conclusion

1.5.1 The results from the 2025 bat activity surveys are very similar to the results from 2023, suggesting that no major changes to the ways in which bats use the site have occurred.

1.5.2 The proposed floodlighting has the potential to cause disruption to small numbers of commuting light-averse bats at MUGA 2. At baseline conditions, light averse bats have typically been recorded in low numbers, later than sunset, and the disruption may therefore be suitably mitigated by implementing a strict lighting curfew at 21:00. In the event that a light-averse bat wishes to commute earlier than 21:00, alternative corridors through the landscape do exist.

2 References

CIEEM (2019), *On the Lifespan of Ecological Reports & Surveys*. Advice Note, https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf.

Collins, J. (ed.) (2023), *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London.

Dpa lighting consultants (2023a), *Northwood College, Multi Use Games Areas. MUGA 1 – Lighting Impact Assessment Report*.

Dpa lighting consultants (2023b), *Northwood College, Multi Use Games Areas. MUGA 2 – Lighting Impact Assessment Report*.

Institute of Lighting Professionals (ILP) (2023), *Bats and artificial lighting in the UK – Guidance Note GN08/23*, Bats and the Built Environment series.

RSK Biocensus (2023), 2484985 Northwood College Bat Report Rev00.

Figures

508500 508600 508700 508800 508900 509000 509100 509200 509300

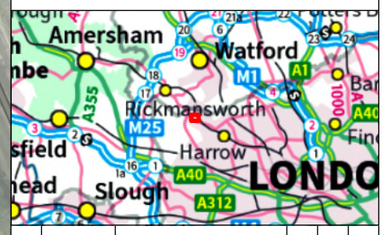
191600 191500 191400 191300 191200 191100 191000

The Hall School/The Grange
Green Lane
Oak Court
Northwood Methodist Church
Northwood Library
Green Lane
Green Lane
Rickmansworth Road
Maxwell Road
Northwood
The Glen
Copse Wood Way
A404
Northwood College
Maxwell Road
Northwood United Synagogue
Rickmansworth Road
Maxwell Road
Murray Road
Leaf Close
Lingfield Close
Murray Road
Northbrook Drive
A404
A404
A404

Legend:

Blue line boundary

Red line bundary



Rev	Date	Description	Drn	Chk	App
00	07/10/2025	2484985	RG	RS	JP

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TITLE: Figure 1:

Site Location Plan

0 30 60 90
Metres
SCALE: 1:2,500 @ A3

N W E S

REV 00

Document Path: C:\OneDrive\OneDrive - RSK Group\RSK Biocensus - 06 GIS - 2484985 - Northwood College London\03 - APRX\2484985 - Northwood College London - Figure 1 - Site Location Plan.aprx

508750 508800 508850 508900 508950 509000 509050 509100

191450 191400 191350 191300 191250 191200 191150

Legend:

- Blue line boundary
- Red line bundary
- Roost

SM4 Location

- July 2025 placement
- July and September 2025 placement
- September 2025 placement

Rev	Date	Description	Drn	Chk	App
00	07/10/2025	2484985	RG	RS	JP

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TITLE: Figure 2:

SM4 Locations

0 10 20 30

Metres

SCALE: 1:1,250 @ A3

N W E S

REV 00

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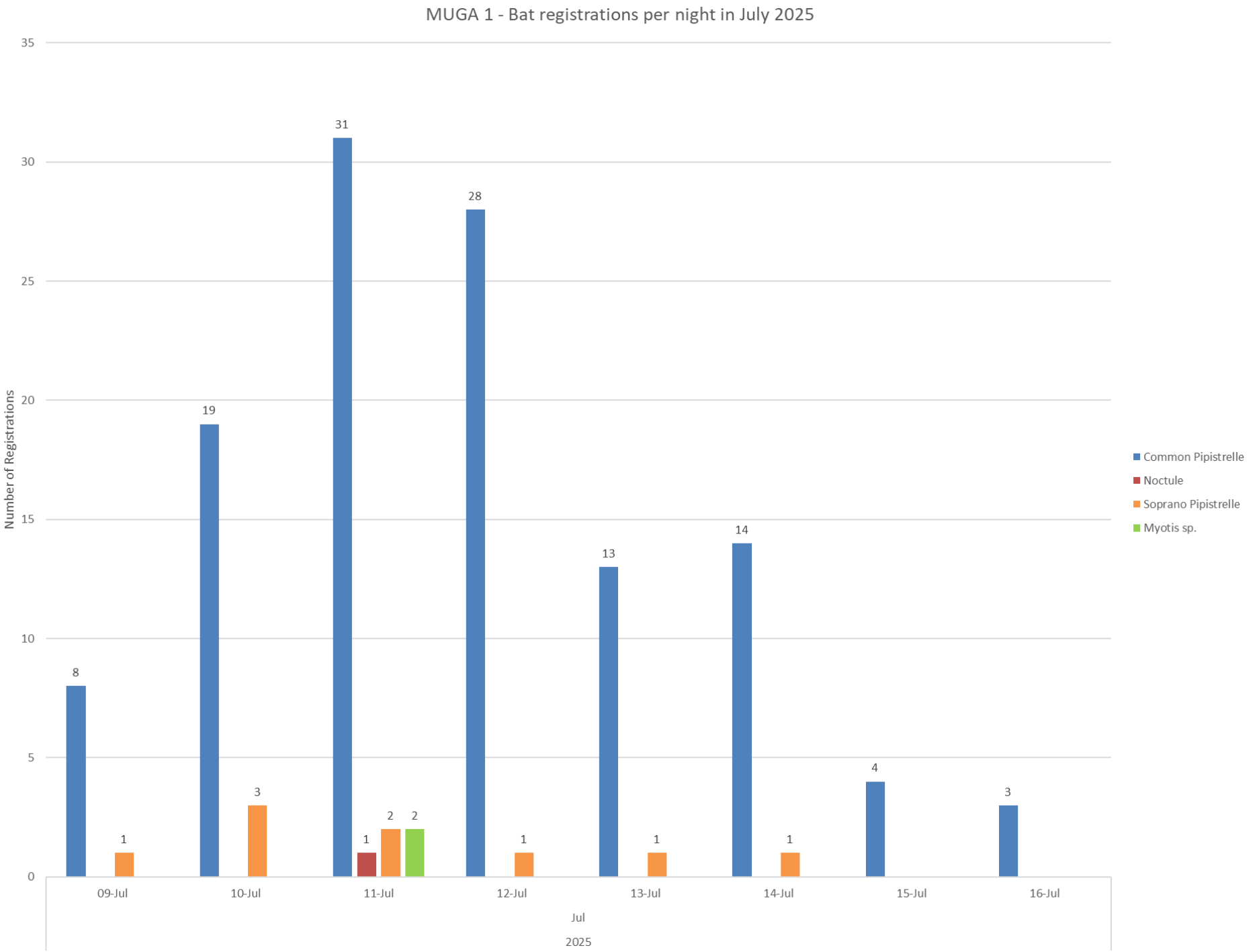
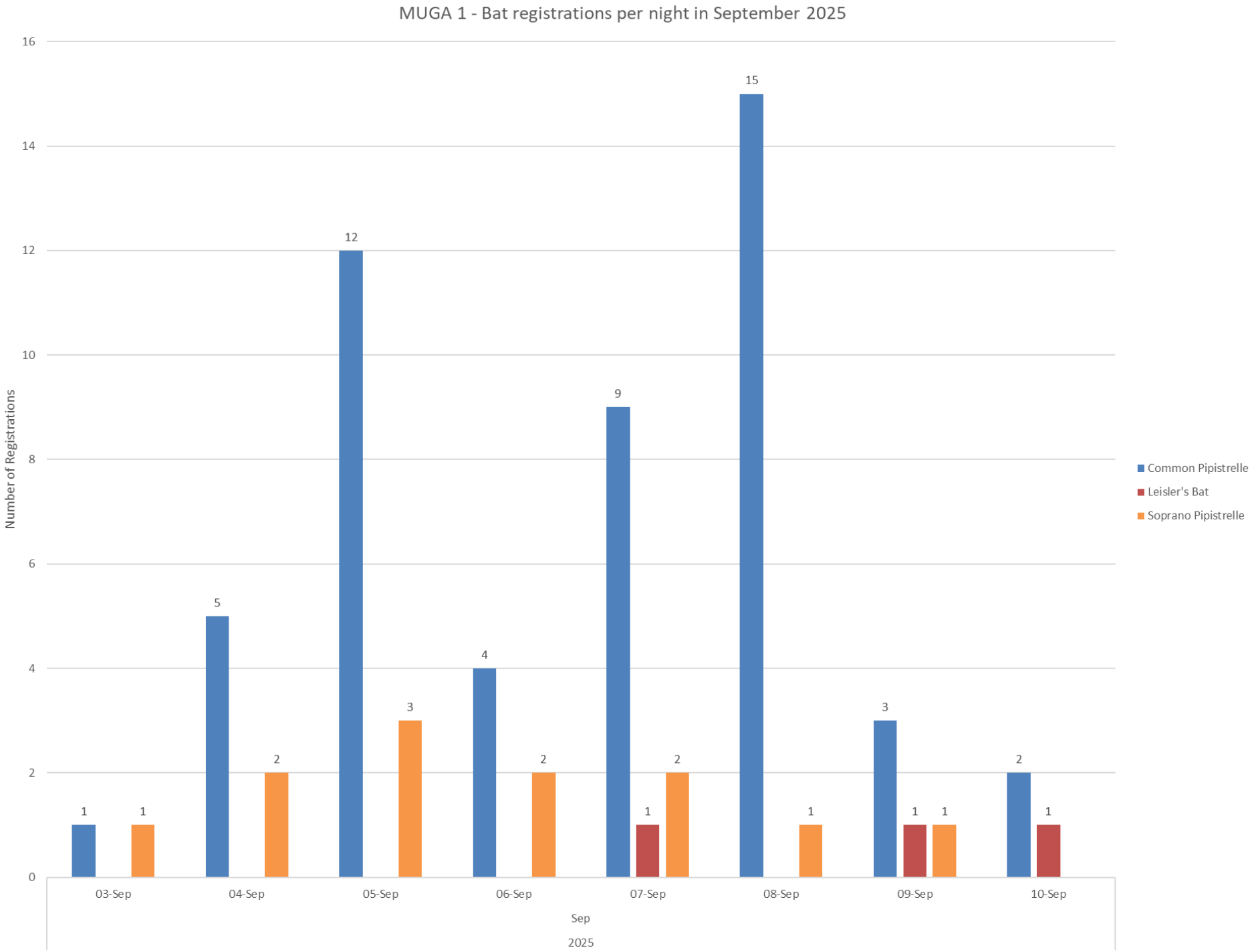
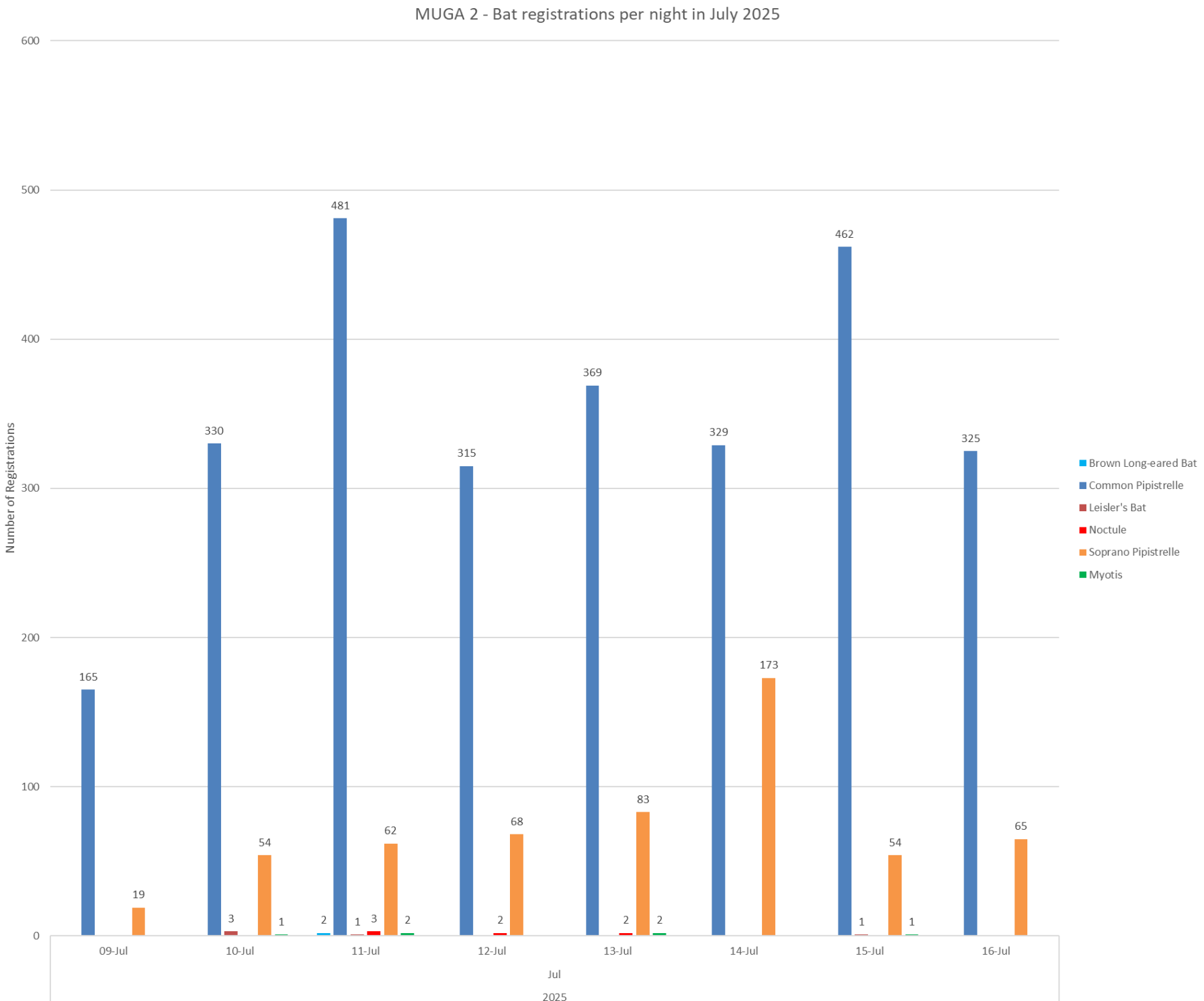
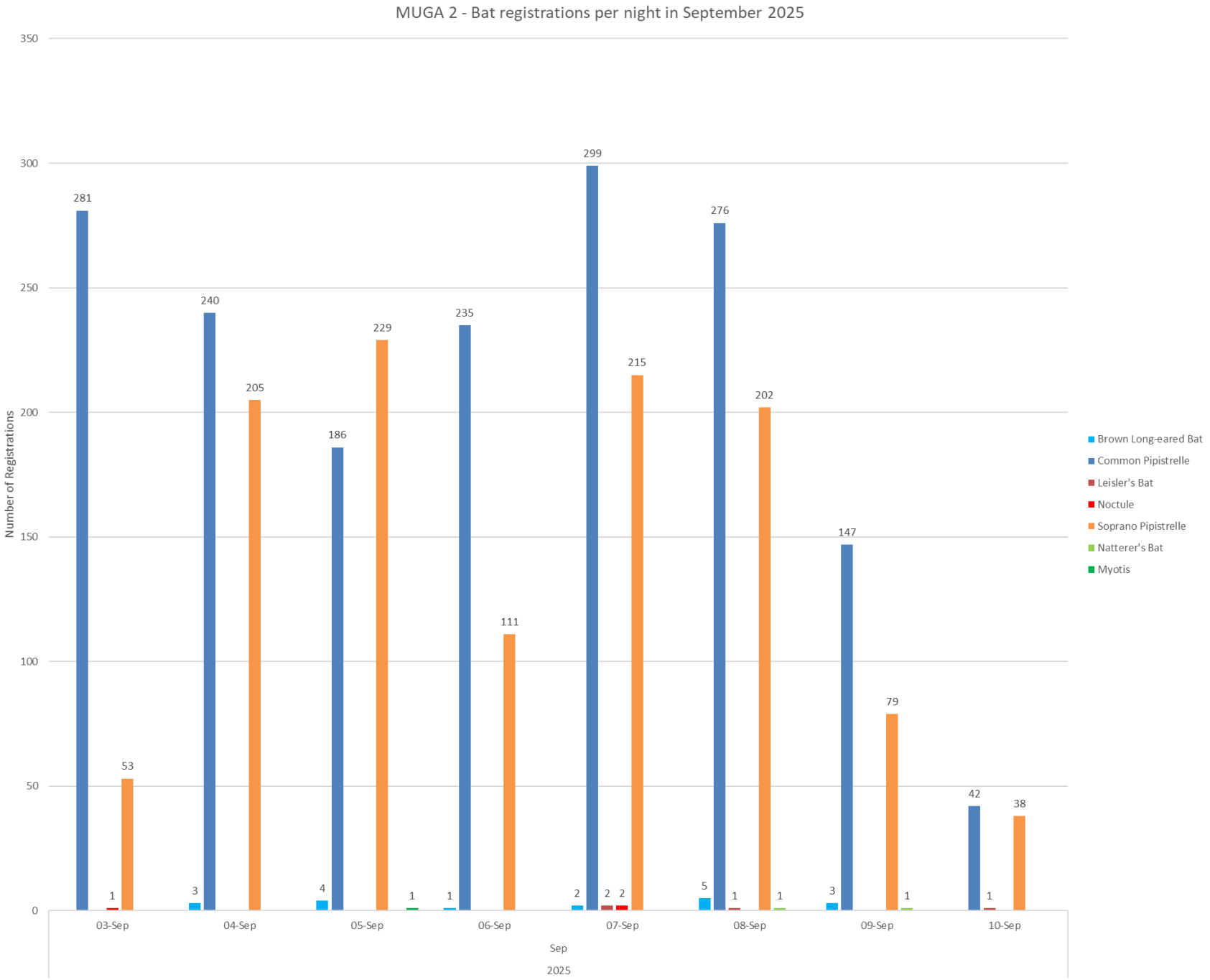
Appendix A


MUGA 1 - Bat registrations per night in July 2025
Number of Registrations
35
30
25
20
15
10
5
0
8
1
19
3
31
1
2
2
28
1
13
1
14
1
4
3
09-Jul
10-Jul
11-Jul
12-Jul
13-Jul
14-Jul
15-Jul
16-Jul
Jul
2025
Common Pipistrelle
Noctule
Soprano Pipistrelle
Myotis sp.


MUGA 1 - Bat registrations per night in September 2025
Number of Registrations
16
14
12
10
8
6
4
2
0
1
1
5
2
12
3
4
2
9
1
2
15
1
3
1
1
2
1
03-Sep
04-Sep
05-Sep
06-Sep
07-Sep
08-Sep
09-Sep
10-Sep
Sep
2025
Common Pipistrelle
Leisler's Bat
Soprano Pipistrelle


MUGA 2 - Bat registrations per night in July 2025
Number of Registrations
600
500
400
300
200
100
0
165
19
330
3
54
1
2
481
1
3
62
2
315
2
68
369
2
83
2
329
173
462
1
54
1
325
65
09-Jul
10-Jul
11-Jul
12-Jul
13-Jul
14-Jul
15-Jul
16-Jul
Jul
2025
Brown Long-eared Bat
Common Pipistrelle
Leisler's Bat
Noctule
Soprano Pipistrelle
Myotis


MUGA 2 - Bat registrations per night in September 2025
Number of Registrations
350
300
250
200
150
100
50
0
281
1
53
3
240
205
4
186
229
1
1
235
111
2
299
2
2
215
5
276
1
202
1
3
147
79
1
42
1
38
03-Sep
04-Sep
05-Sep
06-Sep
07-Sep
08-Sep
09-Sep
10-Sep
Sep
2025
Brown Long-eared Bat
Common Pipistrelle
Leisler's Bat
Noctule
Soprano Pipistrelle
Natterer's Bat
Myotis

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