

XLINKS MOROCCO-UK POWER PROJECT

Preliminary Environmental Information Report

Volume 2, Appendix 1.4: Bat Activity and Remote Detector Surveys



FOR ISSUE
April 2024

1 INTRODUCTION

1.1 Purpose and Scope of this Report

- 1.1.1 This document forms Volume 2, Appendix 1.4 of the Preliminary Environmental Information Report (PEIR) prepared for the UK elements of the Xlinks Morocco-UK Power Project (referred to hereafter as ‘the Proposed Development’). The PEIR presents the preliminary findings of the Environmental Impact Assessment process for the Proposed Development.
- 1.1.2 This document provides the results of the bat activity and remote detector surveys undertaken in February 2023 and November 2023. The surveys and report have been undertaken by Devon Wildlife Consultants
- 1.1.3 It should be noted that the survey areas and conclusions are based on understanding of the Proposed Development at that time.
- 1.1.4 Devon Wildlife Consultants report, Bideford Bat Activity Transects and Remote Detector Surveys (Report No: 22/3987.01) is presented below.
- 1.1.5 The design of the Proposed Development has changed since these surveys were undertaken. As such, updated surveys will be carried out (where required) prior to application to ensure that all elements of the revised Proposed Development site have been considered. The updated survey results will be reported as part of the Environmental Statement.

Accurate Lifespan of Ecological Data

- 1.1.6 Site specific surveys used to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the PEIR were undertaken between 2021 and 2024. CIEEMs Advice Note: On the lifespan of ecological reports and surveys (CIEEM, 2019) recommends that surveys exceeding three years in age are likely to require updating, whilst surveys undertaken between 18 months and three years prior to application may require site visits pre-construction to review the validity of survey findings. Therefore, in accordance with CIEEM guidance, site specific surveys undertaken over 18 months prior to the submission will be updated, where required (following a site review to confirm the validity of survey findings by a suitably qualified ecologist). Those surveys undertaken over three years will be supplemented by further surveys (if DCO is granted) to be completed pre-construction.



Xlinks Alverdiscott, Bideford

Bat Activity Transects and Remote Detector Surveys

Report No: 22/3987.01
Date: February 2023
Client: Xlinks Alverdiscott



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Survey Results

1.1 Methodology

Devon Wildlife Consultants (DWC) was commissioned to undertake bat activity surveys along the proposed Xlinks Alverdiscott cable route near Bideford. Ten survey areas were identified where works were considered to have the potential to impact bat populations; these are referred to as Compounds One to Ten. DWC was commissioned to undertake a pre-defined survey effort of the Compounds which comprised the deployment of twelve remote detectors and six bat transect surveys a month, along the cable route.

The remote detector surveys were undertaken with Wildlife Acoustics Song Meter 4 Minis (SM4Mini) which were deployed along hedgerows and woodland edges throughout the survey season. To ensure that the compounds were fully monitored, the SM4Minis were moved on a pre-planned routine to ensure every linear feature was surveyed over the season and that each general area of the survey area was monitored each season. Recordings were analysed using Wildlife Acoustics Kaleidoscope software and vetted by a competent ecologist. A 'pass' was defined as greater than two navigation calls of one species within ten seconds. The raw data was used to calculate passes per night (ppn), to take into account variations in battery life during the deployments and provide an index for comparative analysis.

Prior to commencing the bat activity transect, aerial photography was utilised to identify habitat features which could potentially be utilised by bats. Transect points were identified to be representative of each habitat feature located within the survey area. During the survey a transect was walked which covered the majority of transect points within the survey area; each transect point was held for three minutes. Calls identified between transect points were assigned to the closest transect point, with additional survey time reference to a pre-defined mid-point between the two points. The exact route varied during each survey to take into account variations in bat usage following sunset. Bat calls were recorded using a Peersonic RPA handheld detector and were subject to analysis via Wildlife Acoustics Kaleidoscope software. Passes per minute (ppm) for each transect point for the entire survey season were calculated, to highlight the features of the survey areas that bats are utilising the most.

Details of the weather conditions recorded during each activity survey are provided in Table 1.1.

Date	Start Time	Temp (°C)	Wind Speed (Beaufort Scale)	Cloud Cover %	Precipitation
19/05/2022	21:06	13	F1	90	None
25/05/2022	21:15	13	F1	90	None
17/06/2022	21:34	19	F0	0	None
21/06/2022	21:35	16	F1	20	None
07/07/2022	21:31	17	F1	0	None
18/07/2022	21:23	26	F1	50	None
27/07/2022	21:11	17	F0	10	None
01/08/2022	21:03	19	F1	100	None
11/08/2022	20:44	24	F0	0	None
18/08/2022	20:33	20	F0	90	None
01/09/2022	20:03	17	F2	80	None
14/09/2022	19:34	14	F1	0	None
21/09/2022	19:09	17	F0	0	None
05/10/2022	18:46	13	F2	0	None
10/10/2022	18:36	13	F0	0	None
18/10/2022	18:20	11	F2	0	None

Table 1.1 Survey dates and weather conditions during bat activity surveys

Six surveys were undertaken per month during the survey season along the cable route. These surveys were undertaken on multiple dates across the span of a month. No individual site was surveyed more than once a month.

1.2 Compound One

The location and extent of Compound One is based on RPS Drawing No. OXF11809 1.a dated April 2022 and is situated at national grid reference SS 413 278. The site comprises a small area of semi-natural grassland. Monthly bat transects and remote detector surveys were planned to be undertaken between the months of May to October (inclusive), however it was not possible to access the site during this period and therefore proxy bat transect surveys of surrounding public footpaths were undertaken instead. This wider habitat comprised semi-natural grassland as well as areas of scrub and hedgerows. It was not possible to deploy a remote detector at this site, due to a lack of suitable features and public access to all areas.

1.2.1 Transect Survey

During the transect surveys, four bat species were identified utilising the area. Species comprised common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule* and serotine *Eptesicus serotinus* bats. Bat activity was low across the site with activity averaging 0.39 bat passes per minute (ppm). The activity was heavily localised, with the majority of bat passes detected along the edges of the scrub located in the northern extent of the survey area. Here there was a total average bat activity of 1.57ppm, mostly comprising common pipistrelle (0.83ppm) and soprano pipistrelle (0.67ppm) bat passes. It should be noted that scrub is not a habitat feature represented within the actual site which will be affected by the proposed works. Bat activity around features which are representative of the habitat within the red line boundary averaged 0.19ppm and passes were limited to soprano pipistrelle and common pipistrelle bats. Results of the transect survey for Compound One are presented in full in Appendix 1.

1.2.2 Conclusion

The proxy surveys from the footpaths surrounding the site indicate that the area surrounding Compound One is utilised by widespread and generalist bat species with low levels of foraging and commuting activity. It is therefore considered that the proposed work at this compound will result in a minimal impact on local bat populations.

1.3 Compound Two

The location and extent of Compound Two is based on RPS Drawing No. OXF11809 1.c dated April 2022 and is situated at national grid reference SS 420 256. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. The site comprises two fields separated by the Abbotsham Cross roundabout on the A39 trunk road. The northern field comprises semi-improved grassland and the southern field supports a maize crop. Both fields are bound by hedgerows except where they border the A39 where they are bordered by lines of trees. During the survey season, the semi-improved grassland was grazed by sheep on rotation.

1.3.1 Transect Survey

During the monthly transect surveys, six species of bat were identified including common pipistrelle, soprano pipistrelle, noctule, lesser horseshoe bat *Rhinolophus hipposideros*, serotine and a long-eared bat *Plecotus* sp. The average number of bat passes per minute was 0.42ppm with most data associated with foraging by common and soprano pipistrelle bats around the streetlights of the roundabout. Transect points affected by the artificial light spill from the streetlights ranged in bat activity from 0.78-1.40 ppm. Activity levels from other bat species were low and indicate sporadic usage of the site.

Lesser horseshoe bat activity was associated with the northern pasture field. However, usage of the site by lesser horseshoe bats was minimal with only one call per 100 minutes of survey effort identified (0.01ppm). Results of the transect survey are presented in full in Appendix 2.

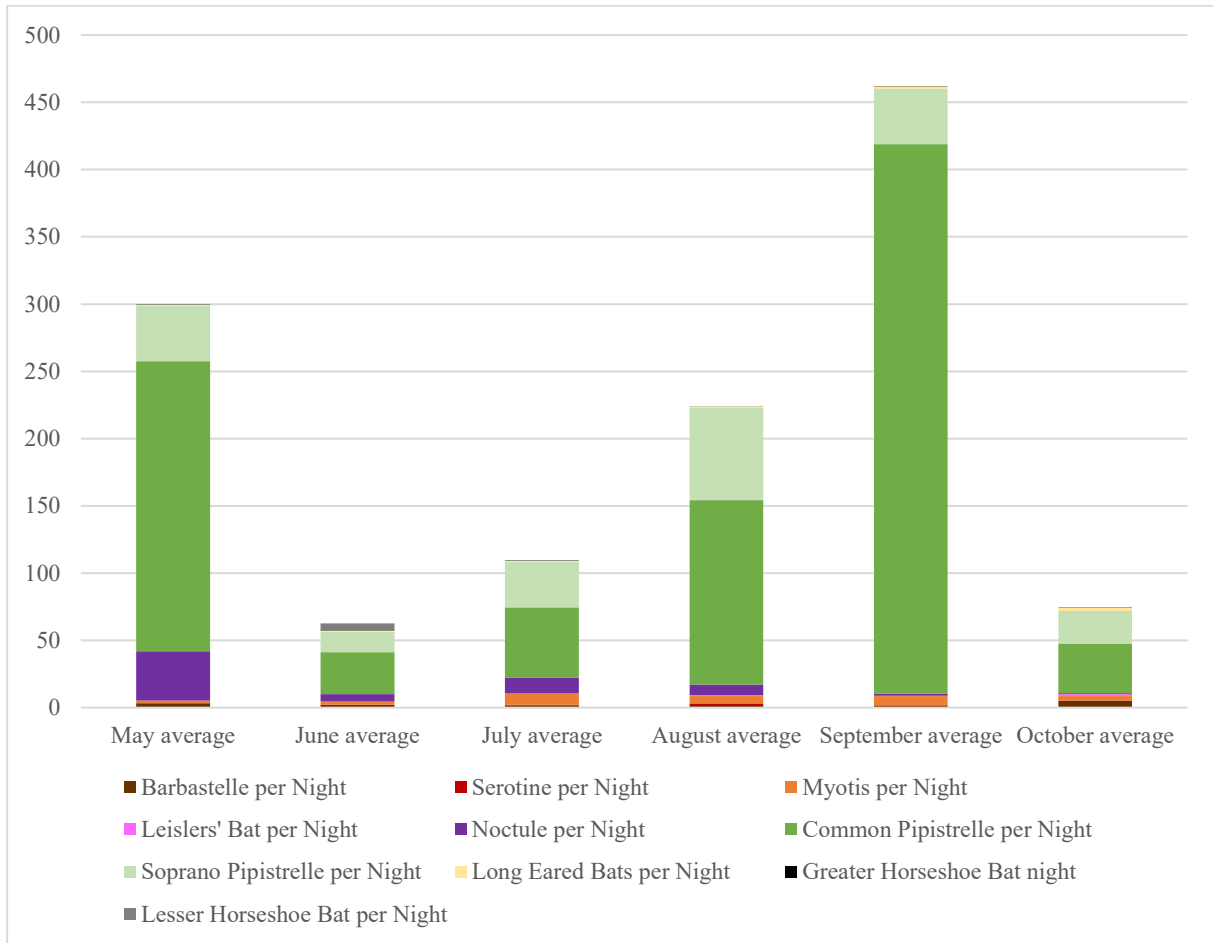
1.3.2 Remote Detector Survey

The remote detector survey indicates that the highest usage of the site was recorded during May and September, with September deployments averaging 461.92 passes per night. As with the activity survey, passes were predominantly attributed to common pipistrelle which made up 71% of the calls, with an additional 18% of the bat calls identified as soprano pipistrelle. The site saw low-level usage by Annex II species, mostly lesser horseshoe (1.00ppn) and barbastelle *Barbastella barbastellus* (2.25ppn) bats. A small peak of 9ppn of lesser horseshoe bat passes was detected in the southern field during June. A small peak in site usage by barbastelle of 7ppn was also identified in the southern field during the October deployment.

Results from the remote detector surveys are presented in Table 1.2 and Graph 1.1.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	5.20	0.40	1.20	0.00	20.40	385.00	36.80	0.60	0.00	0.40	450.00
May B	0.80	0.20	2.60	0.00	53.00	46.20	46.20	0.60	0.20	0.20	150.00
June A	0.20	0.00	1.80	0.00	5.20	14.60	2.20	1.20	0.80	0.20	26.20
June B	2.20	2.00	3.00	0.00	5.60	47.80	28.20	0.80	0.60	9.00	99.20
July A	2.50	0.40	7.80	0.00	0.70	79.90	40.10	0.20	0.10	1.00	132.70
July B	0.56	1.11	8.00	0.78	22.67	24.44	28.22	0.78	0.00	0.00	86.56
August A	0.50	1.50	0.75	1.50	9.50	27.00	11.50	1.00	0.00	0.00	53.25
August B	2.20	2.20	10.20	0.00	6.20	246.80	125.80	1.40	0.00	0.40	395.20
September A	1.50	0.50	12.50	0.00	3.00	811.50	72.00	0.50	0.00	0.00	901.5
September B	1.17	0.17	1.50	0.33	0.33	5.33	10.50	2.83	0.17	0.00	22.83
October A	7.00	0.44	5.11	0.00	0.89	52.11	13.78	2.22	0.00	0.78	82.33
October B	3.14	0.00	1.71	2.86	0.14	22.00	34.86	2.29	0.00	0.00	67.00
Yearly Average	2.25	0.74	4.68	0.46	10.64	146.89	37.51	1.20	0.16	1.00	205.56

Table 1.2: Bat passes per night for each species recorded monthly over the survey season within Compound Two



Graph 1.1. Distribution of bat passes per night recorded for each species within Compound Two

1.3.3 Conclusion

Usage of the compound by bats is relatively low, although localised areas close to artificial light sources supported significant levels of foraging by generalist light-tolerant species. The site supports low numbers of lesser horseshoe and barbastelle bats, although there is little evidence to suggest that the site is located on a major commuting route or foraging grounds. The usage of the site by these species likely comprises sporadic commutes between seasonal feeding grounds.

1.4 Compound Three

The location and extent of Compound Three is based on RPS Drawing No. OXF11809 1.d dated April 2022 and is situated at national grid reference SS 415 249. Bat activity surveys comprised monthly remote detector surveys from May to October (inclusive); one remote detector was deployed each month. The survey area comprises a single maize crop arable field which is surrounded by a hedgerow.

1.4.1 Remote Detector Survey

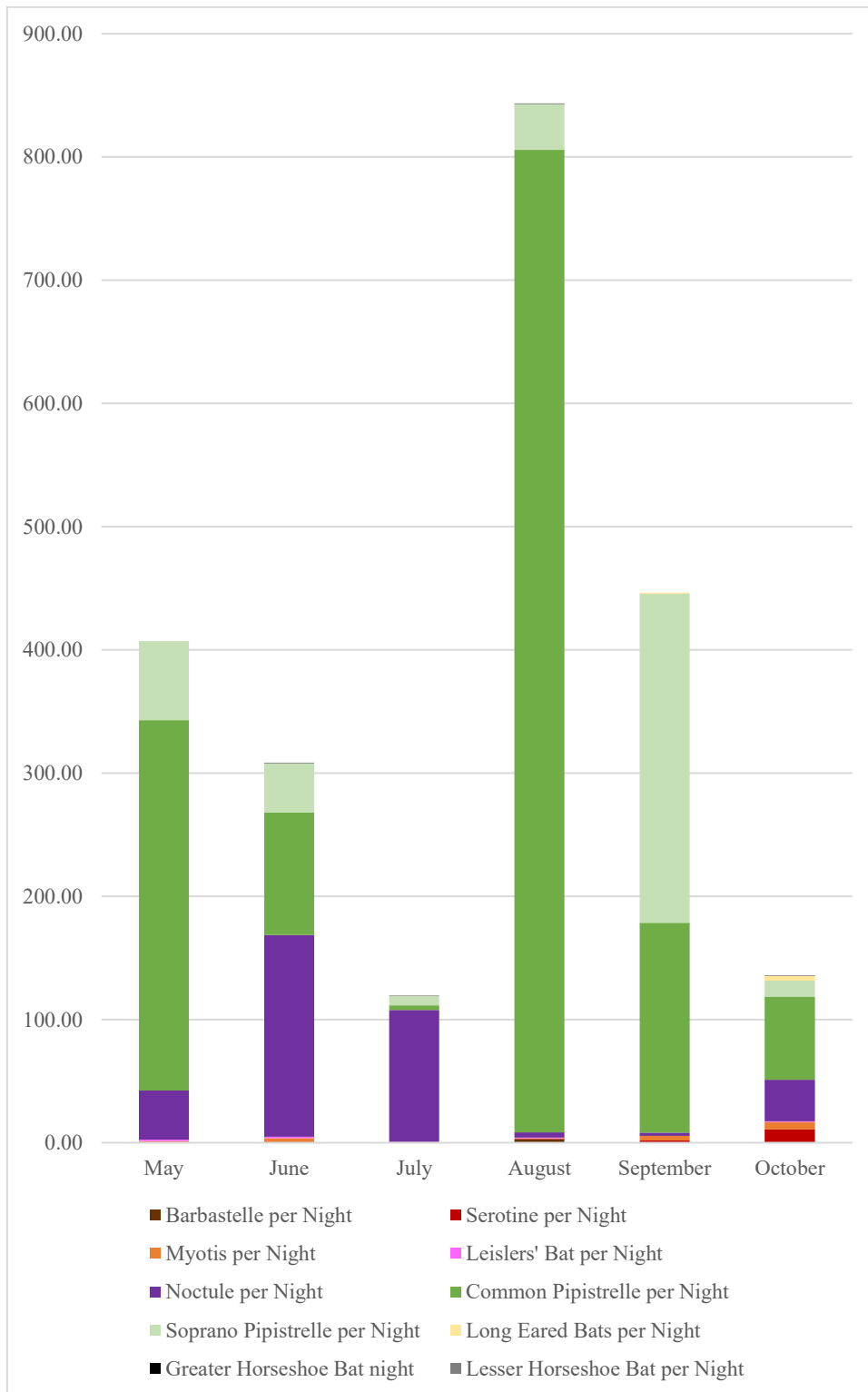
Ten species of bat were recorded utilising Compound Three over the course of the survey; the remote detectors averaged 376.8 bat passes per night on this site. The most populous species encountered was the common pipistrelle which averaged 239.72ppn. Both of these values are heavily weighted by the survey results for August which averaged 843.50ppn, 797.25ppn of which were identified as common pipistrelle. Discounting August, common pipistrelle, although the most frequently recorded bat, counted for just under half of the dataset. Noctule and soprano pipistrelle bats comprised the majority of the remaining data. Noctule activity peaked in June which suggests that there is potential that the site is part of the foraging grounds for a noctule maternity roost or is closely located to a seasonal foraging resource. Soprano pipistrelle activity peaked in September indicating potential use as a swarming area. Activity levels from other bat species were low and indicate sporadic site usage.

The site forms a minor commuting route for the Annex II species barbastelle, with 0.62ppn. Barbastelles were recorded at a peak of 2.75ppn during August and were recorded using the site at lower levels every month between July to October (inclusive). Greater horseshoe and lesser horseshoe bats were recorded using the site in low numbers, indicating incidental site usage by these species.

Results from the remote detector surveys are presented in Table 1.3 and Graph 1.2.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislars' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May	0.00	0.40	1.00	1.00	40.00	300.40	64.20	0.00	0.00	0.00	407.00
June	0.00	0.20	3.40	1.20	163.80	99.20	40.20	0.00	0.20	0.20	308.40
July	0.11	0.11	0.00	0.33	107.11	3.78	7.67	0.00	0.11	0.00	119.22
August	2.75	0.50	0.50	0.50	4.25	797.25	37.00	0.00	0.00	0.75	843.50
September	0.50	1.33	3.83	0.00	2.63	170.17	267.00	1.00	0.00	0.00	446.46
October	0.33	10.33	6.33	0.33	33.83	67.5	12.83	3.83	0.17	0.13	136.17
Average	0.62	2.15	2.51	0.56	58.60	239.72	71.48	0.81	0.08	0.18	376.79

Table 1.3: Bat passes per night for each species recorded monthly over the survey season within compound three



Graph 1.2. Distribution of bat passes per night recorded for each species within compound three

1.4.2 Conclusion

Compound Three is a site with seasonal importance to bats. In early summer the site is likely located on an important commuting route for noctule bats, which are reliant on foraging in the area either to support a maternity roost or to exploit a seasonal resource. At the peak in August, the site is an important foraging ground for common pipistrelle bats. There is potential that the site represents a soprano pipistrelle swarming ground.

It is unlikely that noctule bats are foraging within the arable field and as a light-tolerant species, they are unlikely to be affected by the works. Common and soprano pipistrelle bats are widespread species which are tolerant of lighting. If the hedgerows are to be retained, work at this site is unlikely to have a major impact on bats.

1.5 Compound Four

The location and extent of Compound Four is based on RPS Drawing No. OXF11809 1.e dated April 2022 and is situated at national grid reference SS 431 240. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. The survey area comprises two areas split by a road. The eastern area consists of an improved grassland tightly grazed by sheep, which borders woodland to the north and a hedgerow to the south and east. The western area comprises three turnip crop arable fields. These arable fields all border woodland which is located centrally within the eastern area.

1.5.1 Transect Survey

The Compound Four activity survey identified low levels (average 0.36ppm) of activity across the majority of the survey area, comprising common and soprano pipistrelle bat activity. Five additional species of bat were identified during the survey including greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat, noctule and *Myotis Myotis* sp. Bat activity was heavily localised to the eastern edges of the woodlands within the survey area, with a maximum of 1.29ppm identified along the eastern edge of the woodland in the eastern compartment. The survey identified low levels of greater horseshoe and lesser horseshoe bat activity within the eastern half of the site. Results of the transect survey are presented in full in Appendix 3.

1.5.2 Remote Detector Survey

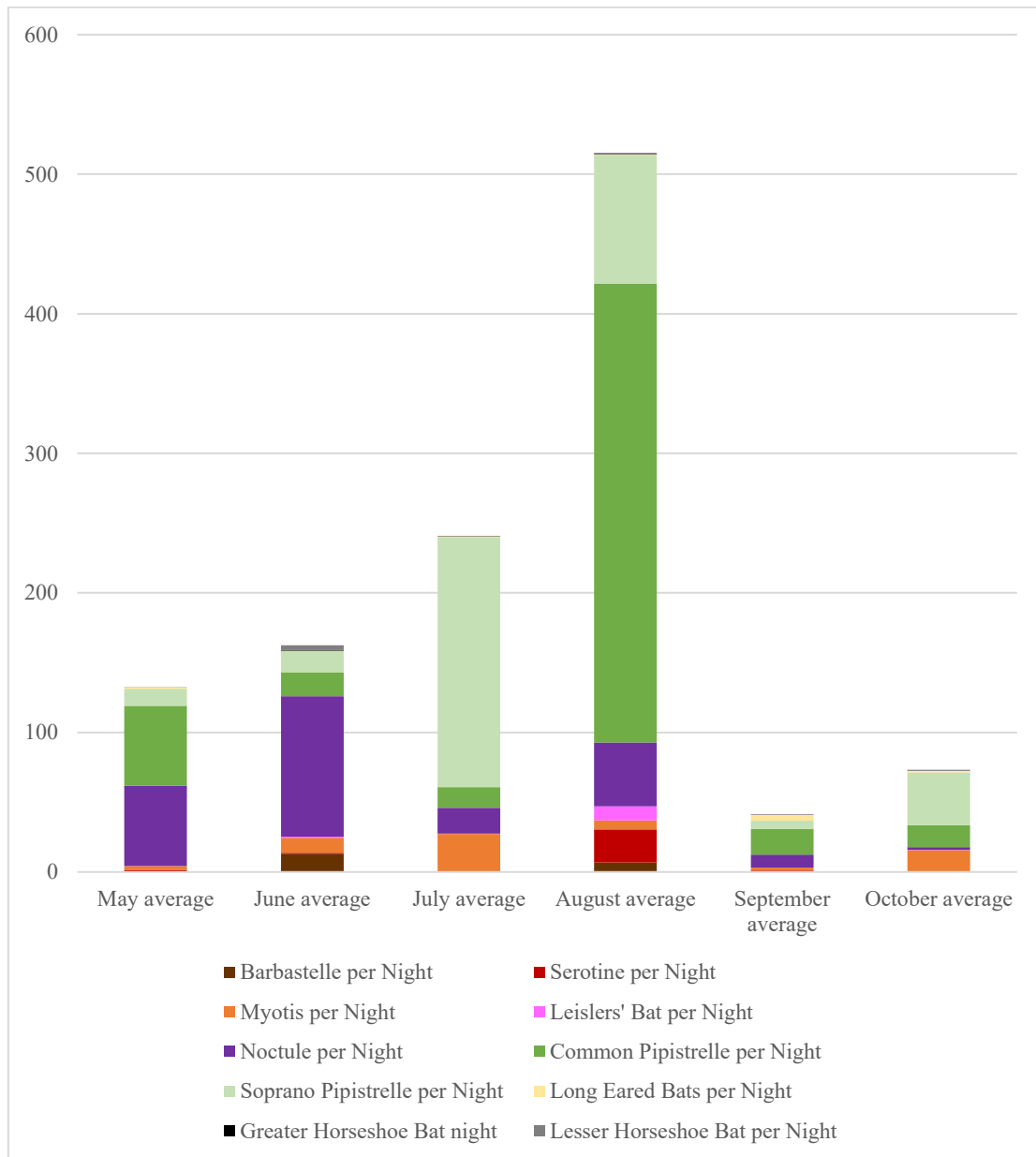
Ten species of bat were identified during the remote detector deployments at this compound. Average bat activity comprised 218.95ppn. The most frequently identified species at this compound was soprano pipistrelle bat, averaging 102.28ppn. Soprano pipistrelle activity was highest along the edges of the eastern woodland, especially during the month of October where 633.29ppn were identified. This indicates that this woodland edge is utilised as a spawning area. Noctule and *Myotis* species made up the majority of the remaining bat activity.

The remote detector deployments identified a notable level of barbastelle activity. A June peak of 13.14ppn was detected along the central country lane. Greater horseshoe and lesser horseshoe bats were recorded in low numbers across the survey season.

Results from the remote detector surveys are presented in Table 1.4 and Graph 1.3.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	0.4	1.2	2.6	0	57.6	57.2	12.2	1	0	0.2	132.4
May B	0	2.2	18.2	0.4	40.8	114.4	88.2	0	0.4	0.4	265
June A	13.14	0.71	10.71	0.71	100.71	17.14	15.29	0.14	0.43	3.43	162.43
June B	6.20	0.20	2.20	0.00	27.60	21.40	13.20	0.00	0.00	0.00	70.80
July A	0.00	0.33	27.00	0.22	18.44	14.89	179.11	0.56	0.22	0.22	241.00
July B	0.56	1.11	8.00	0.78	22.67	24.44	28.22	0.78	0.00	0.00	86.56
August	6.86	23.71	6.29	10.14	45.86	328.86	91.86	0.43	0.43	0.86	515.29
August	1.00	0.75	3.50	0.00	14.50	39.75	21.25	0.25	0.00	0.50	81.50
September A	0.42	0.75	2.08	0.00	9.25	18.50	5.83	4.08	0.08	0.08	41.08
September B	0.00	0.00	41.00	0.00	9.00	53.00	101.00	1.00	2.00	3.00	210.00
October A	0.00	0.14	15.57	0.14	2.00	15.57	37.86	1.14	0.14	0.78	72.86
October B	0.57	2.29	62.57	0.86	11.57	28.86	633.29	4.29	0.00	0.17	748.43
Yearly Average	2.27	0.79	3.76	0.46	10.61	80.01	31.96	1.18	0.18	1.11	132.38

Table 1.4: Bat passes per night for each species recorded monthly over the survey season within compound four



Graph 1.3. Distribution of Bat Passes per Night Recorded for Each Species within Compound Four

1.5.3 Conclusion

The eastern aspect of woodland edges forms the most important bat feature on this site. The double hedgerow along the centrally located road provides a moderately important commuting route for the Annex II species barbastelle.

1.6 Compound Five

The location and extent of Compound Five is based on RPS Drawing No. OXF11809 1.g dated April 2022 and is situated at national grid reference SS 455 248. Bat activity surveys comprised

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monthly transect and remote detector surveys from May to October (inclusive); one remote detector was deployed each month. Weather issues caused a microphone failure during the October deployment resulting in no bat calls identified during this survey month. This was not identified until after a redeployment was possible. The lack of data from October is not considered likely to have impacted the results of the survey. The survey area comprises a single arable perennial ryegrass *Lolium perenne* ley surrounded by hedgerows to the south and west and a species-rich hedgerow with trees to the north and east. Two in-field trees are located within the southern extent of the site.

1.6.1 Transect Survey

Six species of bat were recorded as utilising the site during the transect survey. These were common pipistrelle, soprano pipistrelle, Myotis, noctule, serotine and long-eared species. Bat activity was moderate with an average of 0.53ppm, the majority of which was attributed to soprano pipistrelle (0.32ppm). Bat activity was largely associated with the hedgeline boundaries to the north and east of the site. No Annex II species were identified using the site during the transect survey. Results of the transect survey are presented in full in Appendix 4.

1.6.2 Remote Detector Survey

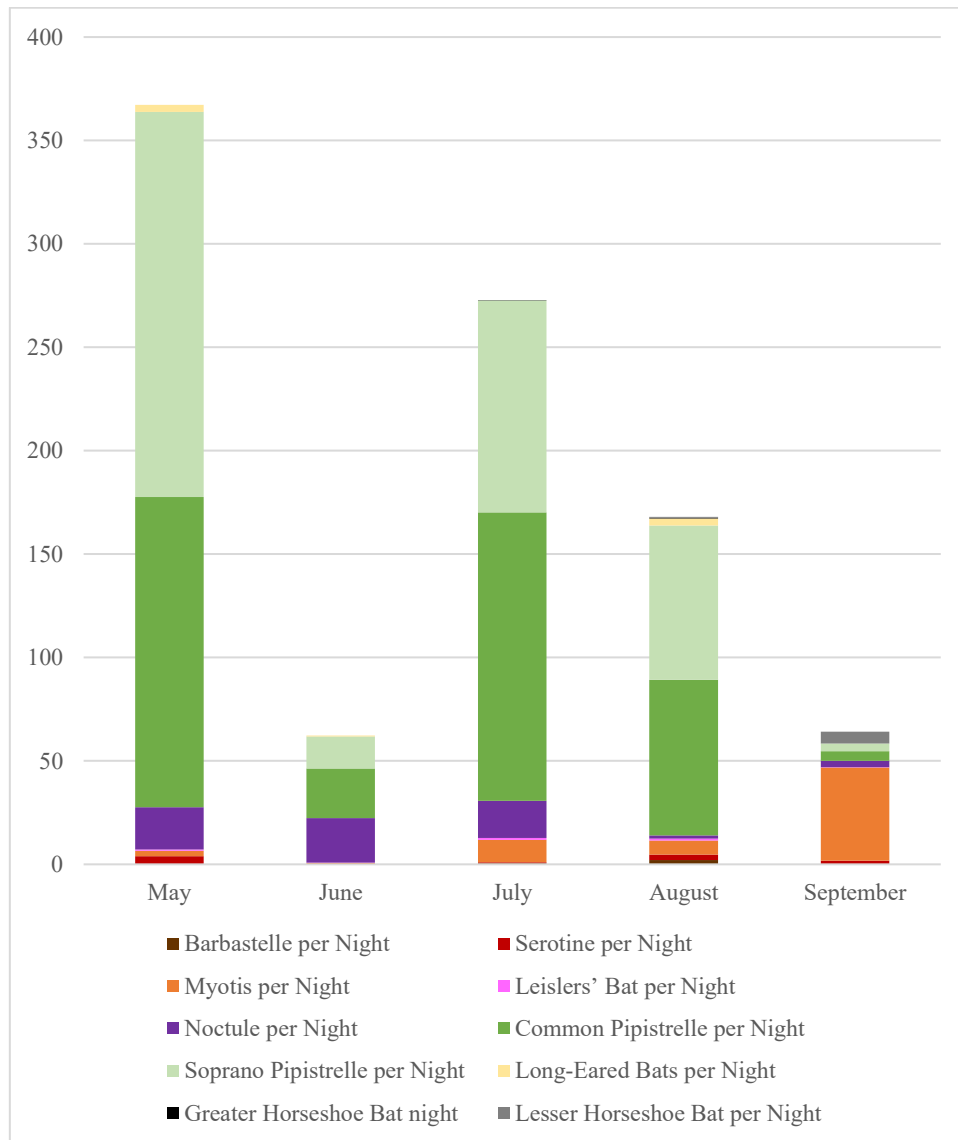
Ten species of bat were recorded utilising Compound Five during the remote detector survey. The average bat activity comprised 186.89ppn. The majority of the bat usage of the site was associated with common pipistrelle (78.66ppn) and soprano pipistrelle (76.48ppn) bats. Myotis and noctule were also considerable components of the bat assemblage with 13.2ppn and 12.9ppn, respectively.

Low levels of Annex II species were recorded utilising the site; barbastelle and greater horseshoe bat both averaged below 1ppn, with peaks for these species in August. Lesser horseshoe bats were recorded at an average of 1.27ppn; the majority of this activity was recorded in September where the average was 5.83ppn.

Results from the remote detector surveys are presented in Table 1.5 and Graph 1.4.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislars' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May	0.00	4.00	2.60	0.60	20.40	150.00	186.20	3.40	0.00	0.00	367.20
June	0.00	0.00	0.71	0.14	21.57	24.00	15.43	0.43	0.00	0.00	62.29
July	0.50	0.50	10.90	0.90	17.90	139.40	102.60	0.00	0.10	0.00	272.80
August	2.00	2.75	6.75	1.00	1.50	75.25	74.50	3.50	0.25	0.50	168.00
September	0.00	1.83	45.00	0.17	3.00	4.67	3.67	0.00	0.00	5.83	64.17
Average	0.50	1.82	13.19	0.56	12.87	78.66	76.48	1.47	0.07	1.27	186.89

Table 1.5: Bat passes per night for each species recorded monthly over the survey season within compound five



Graph 1.4. Distribution of bat passes per night recorded for each species within compound five.

1.6.3 Conclusion

Compound 5 is of moderate importance to local bat populations; most of the usage within the site is located along the eastern tree-lined boundaries. The site is not considered to be an important foraging or commuting area for Annex II species.

1.7 Compound Six

The location and extent of Compound Six is based on RPS Drawing No. OXF11809 1.g dated April 2022 and is situated at national grid reference SS 461 251. The site comprises a single grassland field bordered by a hedgerow to the north and woodland to the west. During the Report 22/3987.01 Bat Activity Transects and Remote Detector Surveys– Xlinks Alverdiscott, Bideford

survey season, the area was sporadically grazed by cattle. Monthly transect surveys were undertaken and one remote detector was deployed monthly between May and October (inclusive).

1.7.1 Transect Survey

Bat activity averaged 0.30ppm, the majority of which comprised calls from common pipistrelle (0.16ppm) and noctule (0.12ppm) bats. The most frequently utilised area was the woodland edge which borders the site to the west. Results of the transect survey are presented in full in Appendix 5.

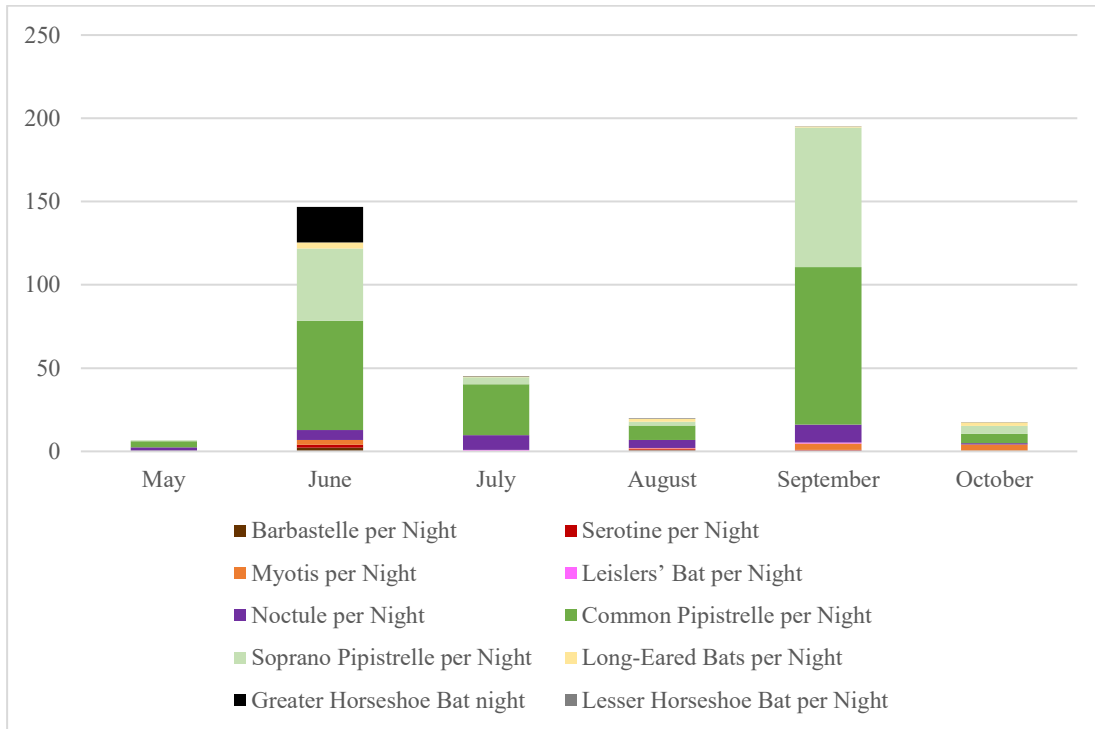
1.7.2 Remote Detector Survey

The site averaged 71.89ppn. Recordings were generally low, however there were two peaks of activity identified during June and September. The variation is likely due to the exposed nature of the site combined with variable weather conditions. The site has a maximum of 195.33ppn recorded in September. Most of the calls identified during the remote detector deployments were from common pipistrelle bats. During the June deployment, greater horseshoe bats were recorded at 21.40 passes per night. During the remainder of the survey, Annex II species were recorded infrequently. The site was periodically grazed by cattle and this spike in use by greater horseshoe bats is potentially due to foraging around cattle movements.

Results from the remote detector surveys are presented in Table 1.6 and Graph 1.5.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May	0	0	0	0	2.5	3.5	0.75	0	0	0	6.75
June	2.2	1.8	2.8	0	6	65.6	43.4	3.6	21.4	0	146.8
July	0	0.18	0	0.73	8.91	30.45	4.18	0.45	0.09	0	45
August	0.78	0.44	0.67	0.11	4.78	8.78	2.22	1.67	0.22	0	19.67
September	0.33	0.5	4	0.5	10.83	94.5	83.83	0.5	0	0.33	195.33
October	0	0	4.2	0	0.8	5.6	4.8	2	0	0.17	17.8
Average	0.55	0.49	1.95	0.22	5.64	34.74	23.20	1.37	3.62	0.08	71.89

Table 1.6: Bat passes per Night for Each Species Recorded Monthly over the Survey Season within Compound 5



Graph 1.5. Distribution of Bat Passes per Night Recorded for Each Species within Compound Six

1.7.3 Conclusion

Overall, Compound Six is not considered to be an important area for bats, with minor activity identified along the woodland edge. However, the site hosts moderate levels of greater horseshoe bat activity in June. Fluctuations in prey abundance around cattle grazing are likely responsible.

1.8 Compounds Seven and Eight

The location and extent of Compounds Seven and Eight is based on RPS Drawing No. OXF11809 1.j dated April 2022. Compounds Seven and Eight were subject to a remote detector survey. Compound Seven comprises a large improved grassland field bound by hedgebanks; during the survey season it was heavily grazed by cattle. Compound Eight comprises an improved grassland field bounded by hedgerows with a small section of an adjacent arable cereal crop. The sites are located approximately 250m apart and have been analysed together.

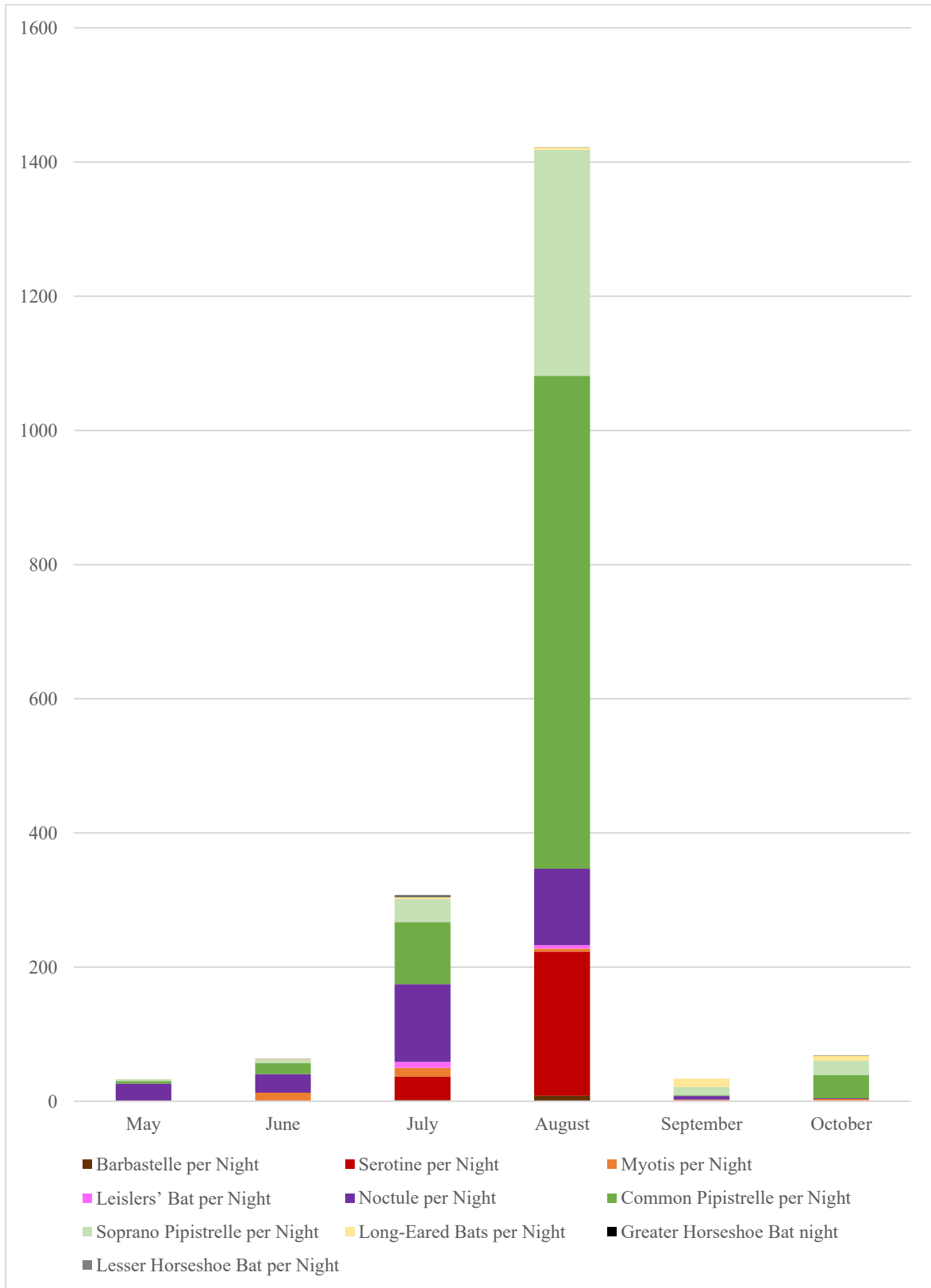
The most frequently identified bat on both sites was noctule bat. Usage in these two sites was generally considered to be low, with noctule bats forming a consistently large component of the bat assemblage. Common and soprano pipistrelle bats were also recorded in significant numbers. During the August deployment in Compound Seven, the highest activity per night of any detector along the cable route was recorded. This was 1,422.40ppn recorded along the eastern hedgerow of this field; this primarily comprised common pipistrelle bat activity. The maximum count of barbastelle bats was also identified during this deployment. During this month it should be noted that the fields were grazed heavily by cattle and the increase in

foraging is likely linked to the increase of invertebrates associated with cattle. With the exception of August, Annex II species across both compounds were recorded less than one pass per night, indicating usually sporadic use of both compounds.

Results from the remote detector surveys are presented in Tables 1.7 and 1.8 and Graphs 1.6 and 1.7.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May	0	0	0.4	0	26.2	3.6	2.6	0	0	0	32.8
June	0.2	0.6	12.2	0	27.4	16.6	4.4	1	0.2	0	62.6
July	1.8	34.8	13.2	8.8	116	92.6	34.2	2.8	0.6	3	307.8
August	8.25	214.75	4.8	4.8	114	734.6	337	3.6	0	0.6	1422.4
September	0	1.5	1	0	5.5	1.11	12	12.5	0	0	33.61
October	0.22	1	2.33	0	1	34.89	20.67	8	0.11	0	68.22
Average	1.75	42.11	5.66	2.27	48.35	147.23	68.48	4.65	0.15	0.60	321.24

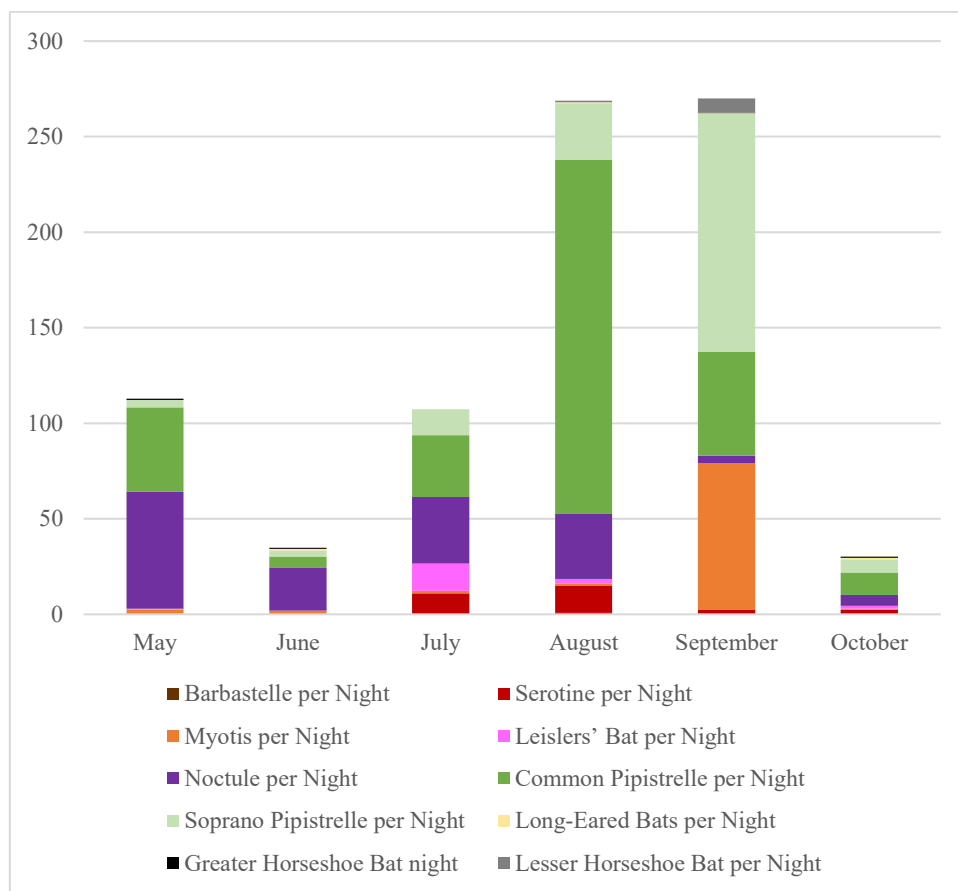
Table 1.7: Bat passes per Night for Each Species Recorded Monthly over the Survey Season within Compound Seven



Graph 1.6. Distribution of Bat Passes per Night Recorded for Each Species within Compound Seven

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May	0	0	2.5	0.5	61	44.25	4	0	0.5	0.25	113
June	0	0.43	1.57	0	22.57	5.71	3.14	0.86	0.43	0.14	34.86
July	0	11	1.38	14.25	34.75	32.38	13.63	0	0	0	107.38
August	0.75	14	1.25	2.5	34	185.5	29.5	0.5	0	0.75	268.75
September	0	2.33	76.83	0	3.83	54.5	124.67	0.17	0.17	7.5	270
October	0	2.4	0.6	1.4	5.8	11.6	7	0.8	0.4	0.43	30.2
Average	0.13	5.03	14.02	3.11	26.99	55.66	30.32	0.39	0.25	1.51	137.37

Table 1.8: Bat passes per Night for Each Species Recorded Monthly over the Survey Season within Compound Eight



Graph 1.7. Distribution of Bat Passes per Night Recorded for Each Species within Compound Eight

1.9 Compounds Nine and Ten

The location and extent of Compounds Nine and Ten are based on RPS Drawing No. OXF11809 1.j dated April 2022. The sites are located adjacent to one another and have therefore been analysed together. Compound Nine comprises two fields of maize crops in the north and two semi-improved fields to the south. There is a slurry pit located centrally. All fields are bound by hedgerows. The site is bordered by a small stream to the east and a small lake and woodland to the south. During the survey season, the semi-improved grasslands were

grazed by cattle. Compound Ten comprises a tightly sheep-grazed semi-improved grassland field bordered by hedgerows to the north and a wooded stream to the southwest. It should be noted that the southern fields within Compound Nine were grazed for most of the year by cattle not habituated to human presence. Due to safety concerns these fields were under-represented in the final dataset from both transect surveys and remote detector deployments.

1.9.1 Transect Survey

The transect survey confirmed that the site is utilised by six species of bats. These comprised common pipistrelle, soprano pipistrelle, noctule, Leislers' bat, serotine and long-eared bat *Plecotus* sp. Transect surveys resulted in an average of 0.71ppm for all bat species, with noctule, soprano pipistrelle and common pipistrelle roughly equal components, with 0.24ppm, 0.22ppm and 0.21ppm respectively. The southern cattle-grazed pastures were used by all identified bat species as a foraging ground, and along the stream-lined boundary of these fields; 7ppm were identified from all bats utilising this area. Soprano and common pipistrelle bats were also recorded in notable numbers in the north of the arable fields and the area around the slurry pit, which is utilised for foraging. Within Compound Ten, only the northern hedgebank was identified as an important bat-use area. No Annex II species were identified utilising either of these compounds during the activity survey. Results of the transect survey are presented in full in Appendix 6.

1.9.2 Remote Detector Survey

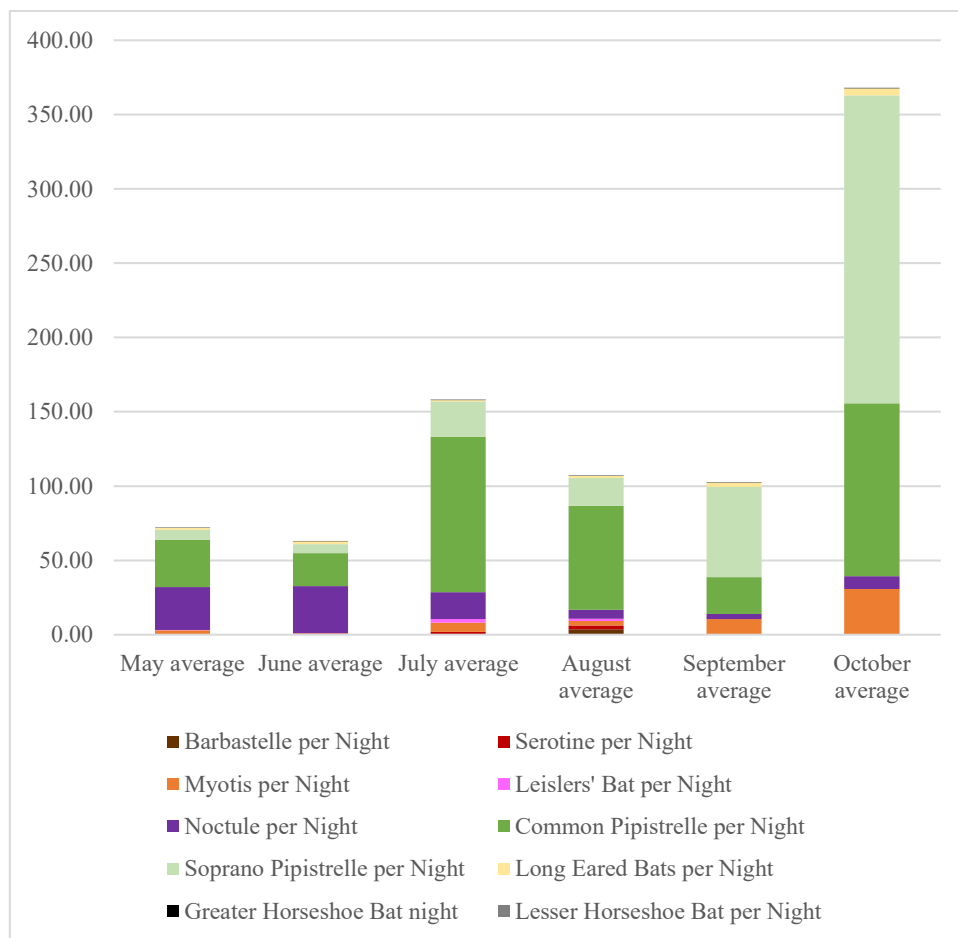
The highest level of activity identified during the remote detector survey was during the Autumn. The remote detector survey of the site identified generally low levels of bat activity with the highest counts identified in October. This is likely due to the orientation of the site on a south-facing hillslope providing a localised sheltered area for bats in poor weather. Annex II species utilise the site sporadically with all months returning an average of less than 1ppn for all three species. The exception is one detector deployment in August, during which 9.83ppn for barbastelle was recorded along the hedgerow bounding the two pasture fields.

Results from the remote detector surveys are presented in Table 1.9 and Graph 1.8.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leislers' Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	0.17	0.17	2.17	0.67	35.5	8.83	3.67	2.33	0	0	53.5
May B	0	0.17	3.17	0	36.33	24.33	3.83	0	0.5	0	68.33
May C	0.17	0	2.83	0	15	62	12.67	1.67	0.33	0	94.67
June A	0	0	0	0	14.33	37.67	8	0	0.33	0	60.33
June B	0.14	0	1.29	0	29	13.14	2	0.86	0	0	46.43
June C	0	0.2	1.2	0.2	51.6	15.6	8.6	4.8	0	0	82.2
July A	0.2	2.6	14	1.4	22.6	181.9	23.6	1.7	0.3	0.1	248.4
July B	0	0.2	0.8	0.3	3.4	51.6	21.9	0.7	0	0	78.9
July C	0	2.6	4.3	5.4	28.1	80	26	0.4	0.1	0.1	147
August A	1	1.67	2.33	4.67	1.67	35.67	9	0.33	0	0	56.33

August B	9.83	3.5	4.17	0	1.5	116.17	37.67	0.17	0.17	1	174.17
August C	0	2.33	2.56	0.22	15.11	57.67	9.78	3.56	0.11	0	91.33
September A	0	0.25	13.5	0	2.5	22.63	61.13	3.38	0.25	0.38	104
September B	0	0	7.4	0	4.4	26.8	60.2	2.2	0	0	101.2
October A	0.33	0	19.67	0	21.67	35	47.33	2.33	0	0.14	126.67
October B	0.33	0	56.5	0	0.5	50.67	60.33	0.33	0	0	169.17
October C	0.4	0.2	14.6	0	3.8	263.6	513.8	11.8	0.2	0	808.6
Average	0.74	0.82	8.85	0.76	16.88	63.72	53.50	2.15	0.13	0.10	147.72

Table 1.9: Bat passes per night for each species recorded monthly over the survey season within compound nine and ten



Graph 1.8. Distribution of bat Passes per night recorded for each species within compound nine and ten

1.9.3 Conclusion

The southern pasture fields form an important foraging location for most bat species within the area, particularly during August and September. Secondary features such as along the north of the site and around the slurry pit provide important foraging and commuting areas for generalist species.

1.10 Summary

Bat activity along the proposed cable route is generally dominated by three species; common pipistrelle, soprano pipistrelle and noctule. Pipistrelle species activity is heavily localised with the majority of activity located around sheltered locations or valuable foraging areas. Noctule bats were recorded using most of the areas across the site, presumably commuting around the landscape. Noctules were observed foraging heavily in the cattle-grazed semi-improved grassland in Compound Nine. Usage of the landscape by most other species of bat is limited, with insufficient passes per night recorded to form conclusions on their trends. It is presumed their populations are limited within the area and that these bat species generally follow the same patterns as the more commonly identified species.

Annex II species were generally recorded at low levels, however sporadic peaks of activity from greater horseshoe bats and barbastelle throughout the year indicate a dynamic usage of the landscape where they exploit seasonally available food sources and avoid overly exposed situations during variable weather conditions. Evidence derived from the surveyed compartments did not suggest the presence of important commuting or foraging routes for Annex II species. Temporary disturbance caused by the works is therefore not considered likely to adversely affect the local metapopulation of these species, subject to the retention of identified dark corridors of value to commuting and foraging bats during the works.

Appendices

Appendix 1: Compound 1 Activity Survey Results

Appendix 2: Compound 2 Activity Survey Results

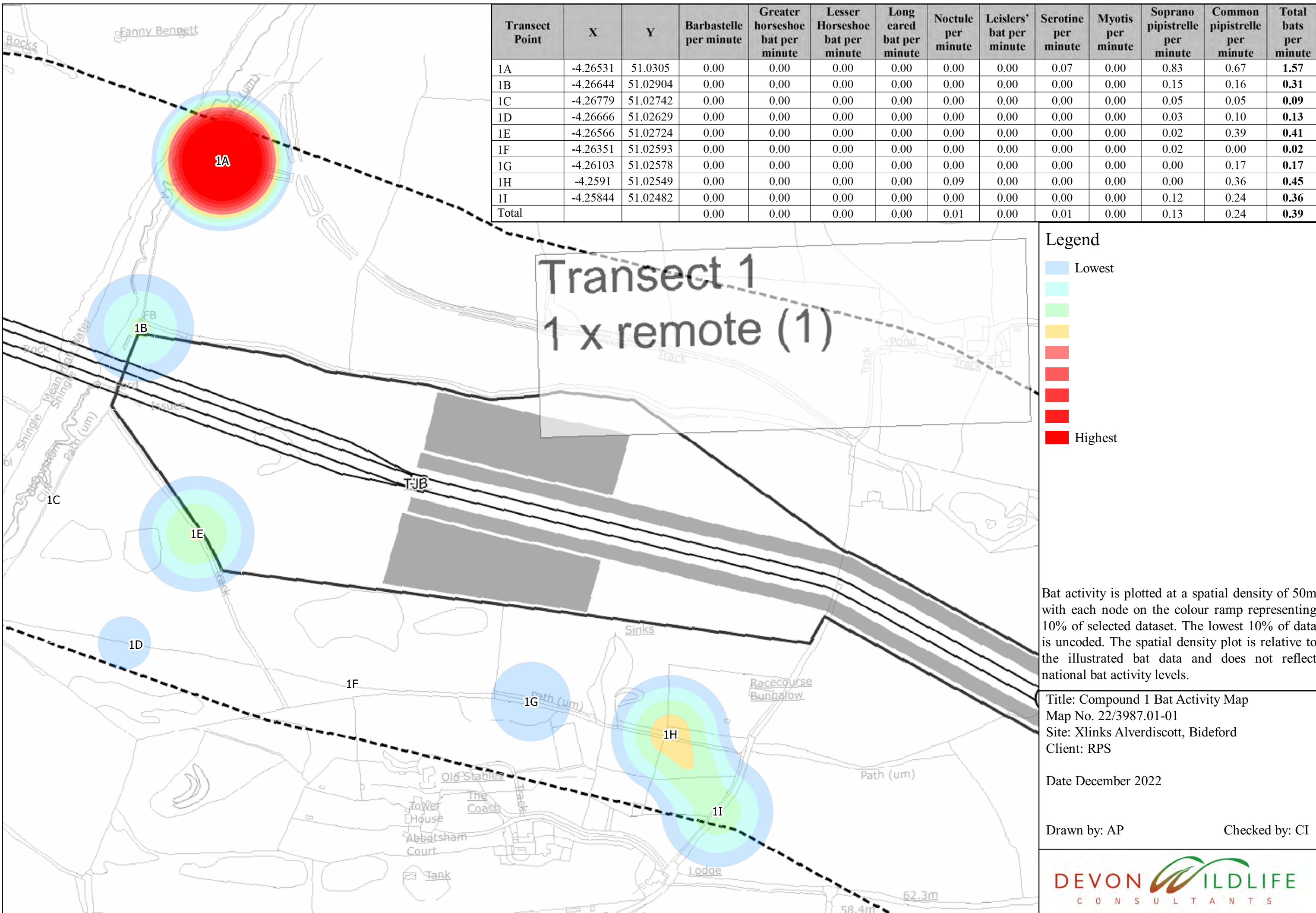
Appendix 3: Compound 4 Activity Survey Results

Appendix 4: Compound 5 Activity Survey Results

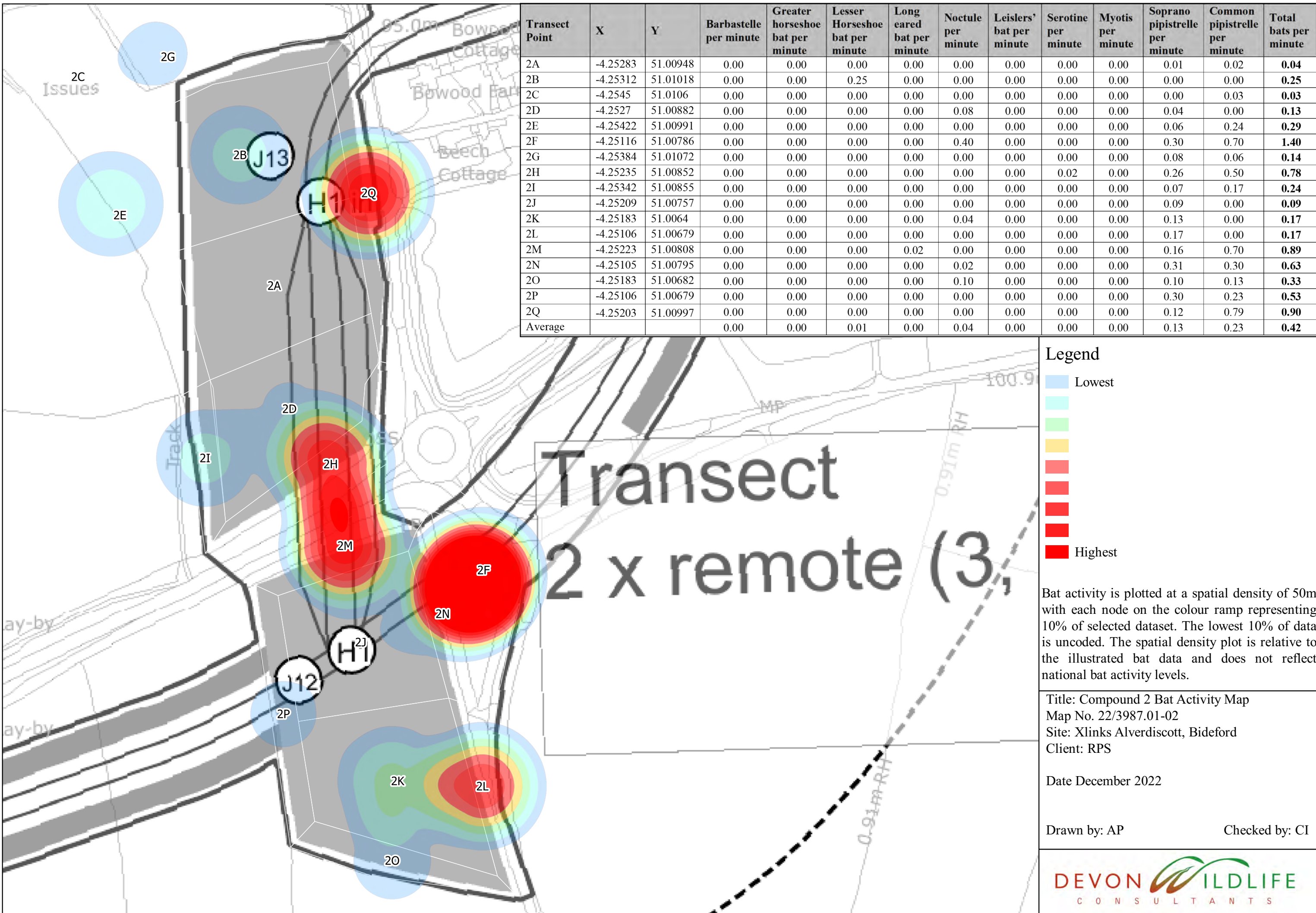
Appendix 5: Compound 6 Activity Survey Results

Appendix 6: Compounds 9 and 10 Activity Survey Results

Appendix 1 – Compound 1 Transect Survey Results



Appendix 2 – Compound 2 Transect Survey Results



Transect Point	X	Y	Barbastelle per minute	Greater horseshoe bat per minute	Lesser Horseshoe bat per minute	Long eared bat per minute	Noctule per minute	Leislers' bat per minute	Serotine per minute	Myotis per minute	Soprano pipistrelle per minute	Common pipistrelle per minute	Total bats per minute
2A	-4.25283	51.00948	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04
2B	-4.25312	51.01018	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
2C	-4.2545	51.0106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
2D	-4.2527	51.00882	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.04	0.00	0.13
2E	-4.25422	51.00991	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.24	0.29
2F	-4.25116	51.00786	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.30	0.70	1.40
2G	-4.25384	51.01072	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06	0.14
2H	-4.25235	51.00852	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.26	0.50	0.78
2I	-4.25342	51.00855	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.24
2J	-4.25209	51.00757	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09
2K	-4.25183	51.0064	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.13	0.00	0.17
2L	-4.25106	51.00679	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.17
2M	-4.25223	51.00808	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.16	0.70	0.89
2N	-4.25105	51.00795	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.31	0.30	0.63
2O	-4.25183	51.00682	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10	0.13	0.33
2P	-4.25106	51.00679	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.23	0.53
2Q	-4.25203	51.00997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.79	0.90
Average			0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.13	0.23	0.42



Bat activity is plotted at a spatial density of 50m with each node on the colour ramp representing 10% of selected dataset. The lowest 10% of data is uncoded. The spatial density plot is relative to the illustrated bat data and does not reflect national bat activity levels.

Title: Compound 2 Bat Activity Map
 Map No. 22/3987.01-02
 Site: Xlinks Alverdiscott, Bideford
 Client: RPS

Date December 2022

Drawn by: AP Checked by: CI



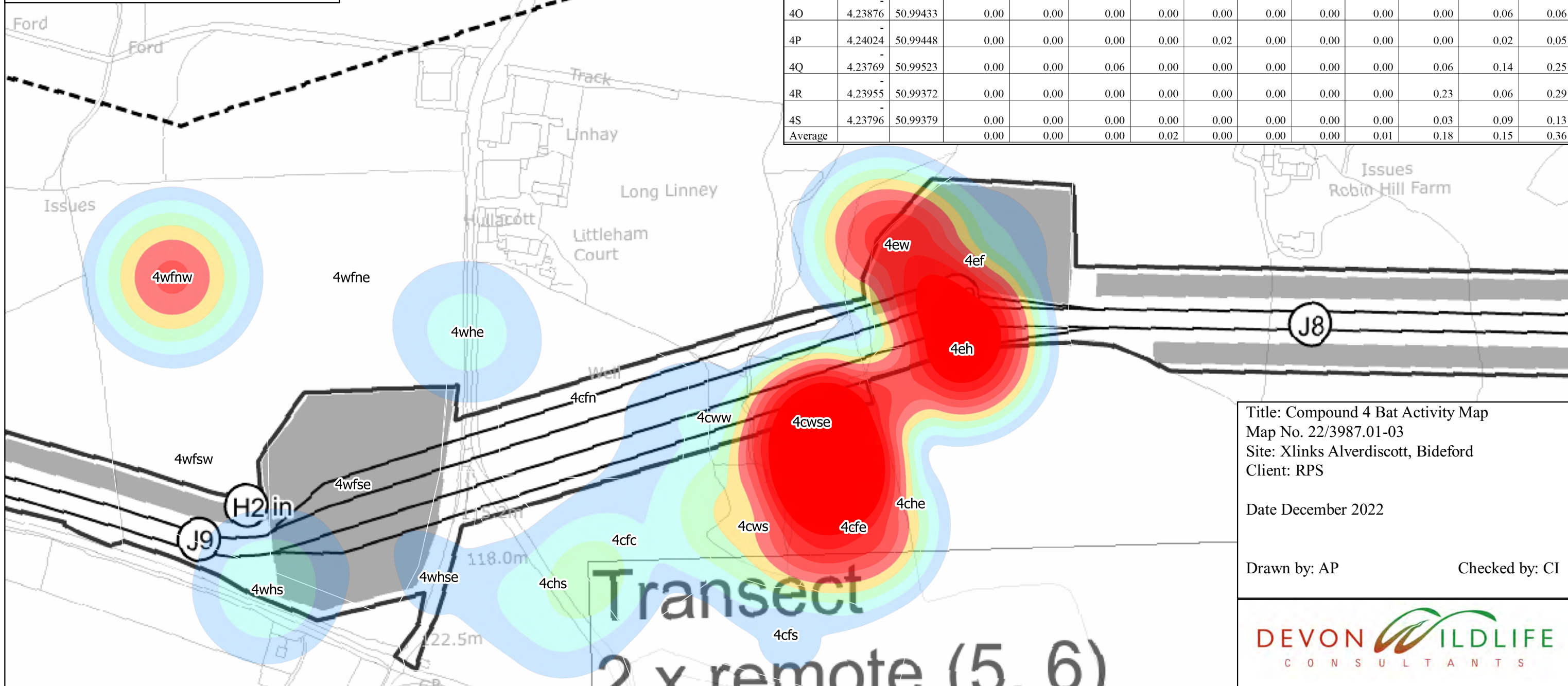
Appendix 3 – Compound 4 Transect Survey Results

Legend



Bat activity is plotted at a spatial density of 50m with each node on the colour ramp representing 10% of selected dataset. The lowest 10% of data is uncoded. The spatial density plot is relative to the illustrated bat data and does not reflect national bat activity levels.

Transect Point	X	Y	Barbastelle per minute	Greater horseshoe per minute	Lesser Horseshoe per minute	Long eared per minute	Noctule per minute	Leislars per minute	Serotine per minute	Myotis per minute	Soprano pipistrelle per minute	Common pipistrelle per minute	Total bats per minute
4A	4.23623	50.99401	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.16	0.21
4B	-4.2341	50.99408	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.18	0.18	0.29	0.76
4C	4.23661	50.99484	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
4D	4.23469	50.99343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12
4E	-4.2337	50.99417	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
4F	-4.2368	50.99363	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29
4G	4.23503	50.99409	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.44
4H	4.23436	50.99465	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.94	0.29	1.29
4I	4.23555	50.99468	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.14	0.21
4J	4.23297	50.99564	0.00	0.00	0.00	0.20	0.07	0.00	0.00	0.00	0.00	0.00	0.27
4K	4.23309	50.99513	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.50	1.08
4L	4.23381	50.99577	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.30	0.74
4M	4.23877	50.99555	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
4N	4.24044	50.99555	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.04	0.63
4O	4.23876	50.99433	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
4P	4.24024	50.99448	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.05
4Q	4.23769	50.99523	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.06	0.14	0.25
4R	4.23955	50.99372	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.06	0.29
4S	4.23796	50.99379	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.09	0.13
Average			0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.18	0.15	0.36



Title: Compound 4 Bat Activity Map
 Map No. 22/3987.01-03
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 Client: RPS

Date December 2022

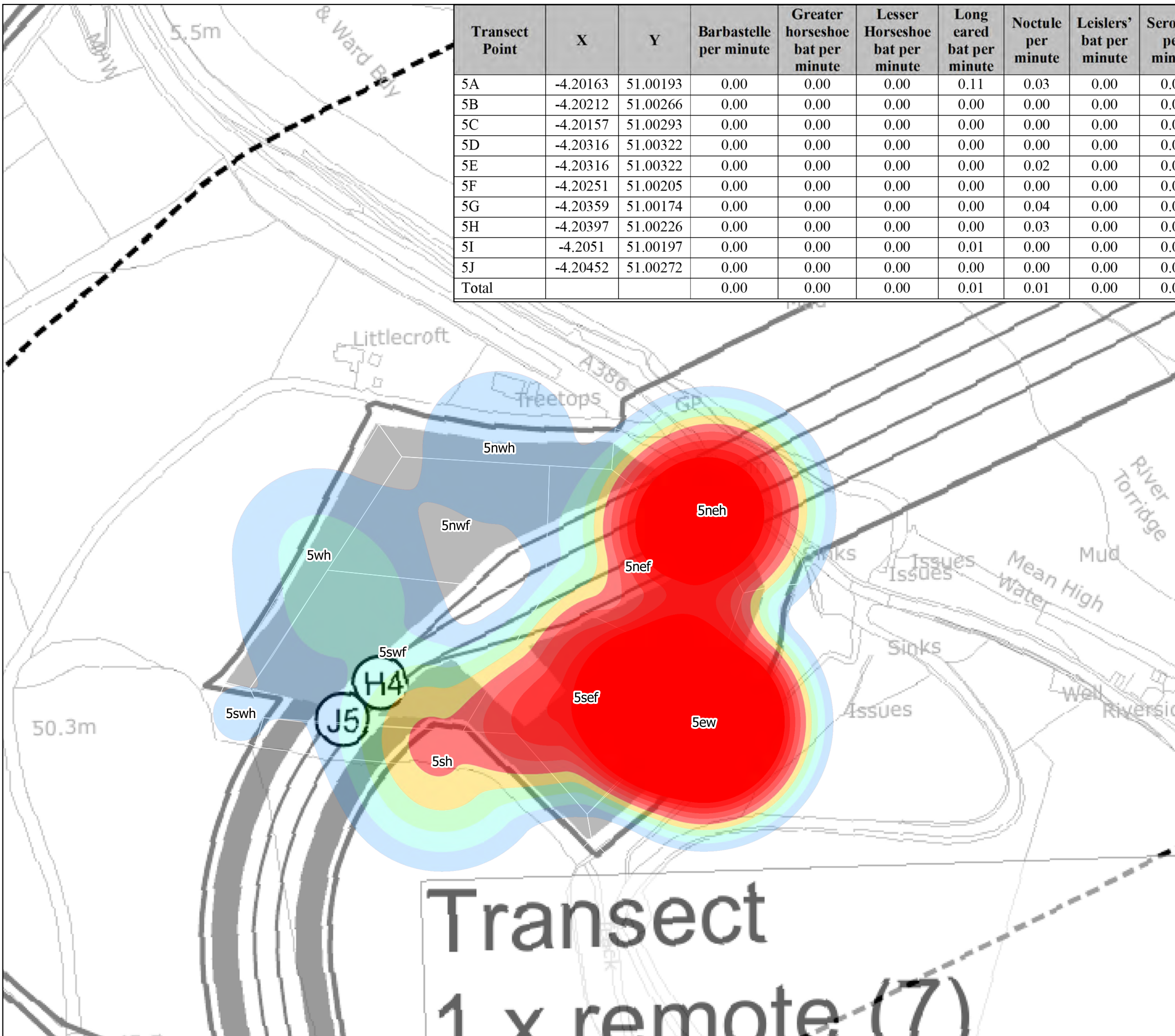
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Checked by: CI

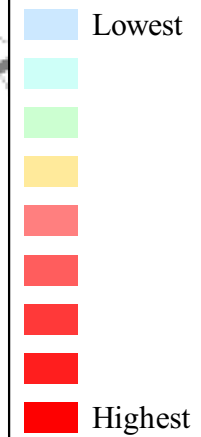


Appendix 4 –Compound 5 Transect Survey Results

Transect Point	X	Y	Barbastelle per minute	Greater horseshoe bat per minute	Lesser Horseshoe bat per minute	Long eared bat per minute	Noctule per minute	Leislars' bat per minute	Serotine per minute	Myotis per minute	Soprano pipistrelle per minute	Common pipistrelle per minute	Total bats per minute
5A	-4.20163	51.00193	0.00	0.00	0.00	0.11	0.03	0.00	0.00	0.17	0.97	0.55	1.83
5B	-4.20212	51.00266	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.16	0.34
5C	-4.20157	51.00293	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.21	1.17
5D	-4.20316	51.00322	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03
5E	-4.20316	51.00322	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.03	0.16
5F	-4.20251	51.00205	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.55	0.13	0.85
5G	-4.20359	51.00174	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.01	0.26	0.19	0.51
5H	-4.20397	51.00226	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.05	0.08	0.16
5I	-4.2051	51.00197	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.07	0.01	0.11
5J	-4.20452	51.00272	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.13	0.23
Total			0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.04	0.33	0.15	0.54



Legend



Bat activity is plotted at a spatial density of 50m with each node on the colour ramp representing 10% of selected dataset. The lowest 10% of data is uncoded. The spatial density plot is relative to the illustrated bat data and does not reflect national bat activity levels.

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 Map No. 22/3987.01-04
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 Client: RPS

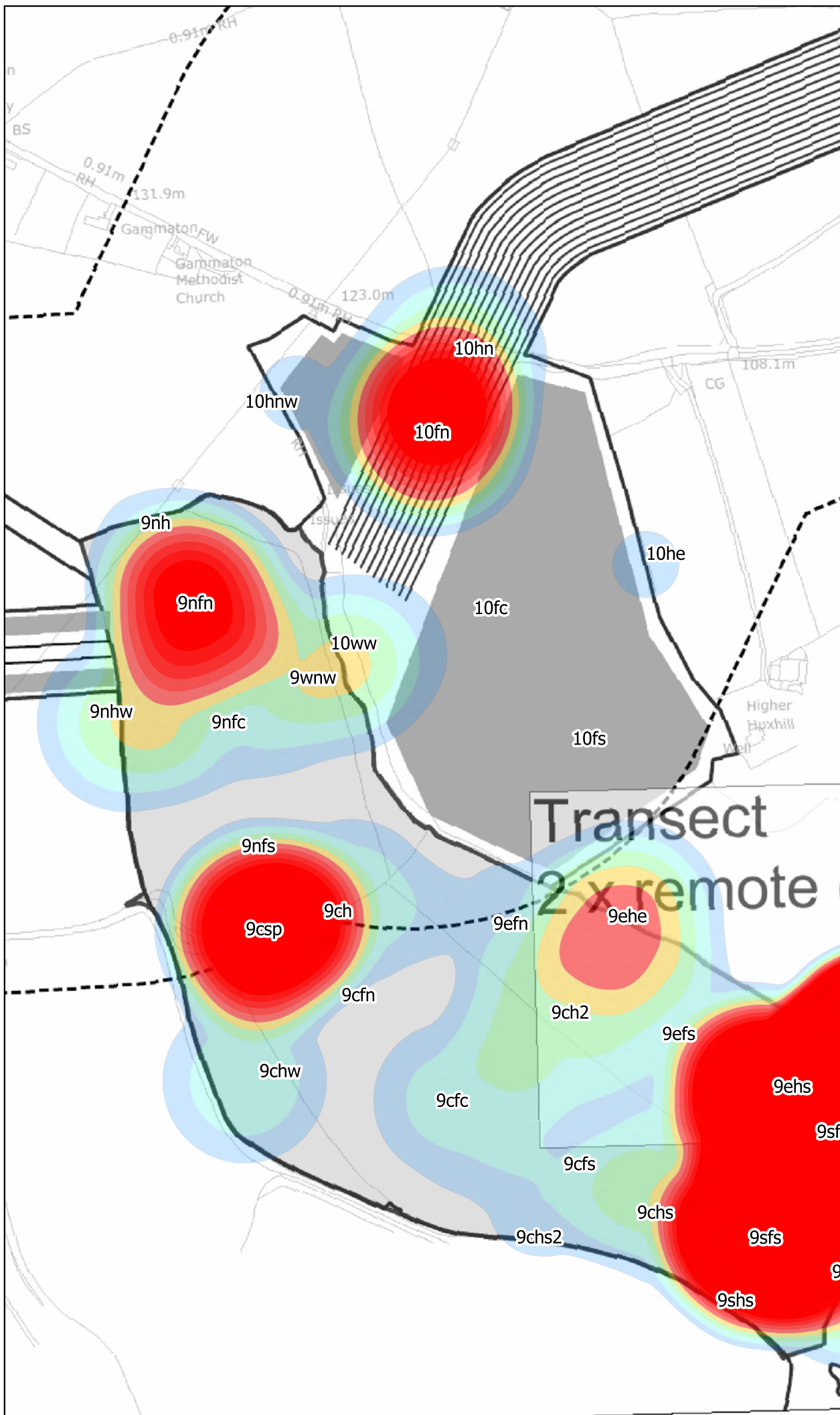
Date December 2022

Drawn by: AP

Checked by: CI

Appendix 5 – Compound 6 Transect Survey Results

Appendix 6 – Compounds 9 and 10 Transect Survey Results



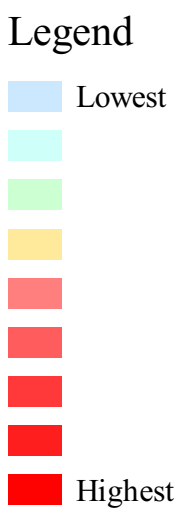
Transect Point	X	Y	Barbastelle per minute	Greater horseshoe bat per minute	Lesser Horseshoe bat per minute	Long eared bat per minute	Noctule per minute	Leislers' bat per minute	Serotine per minute	Myotis per minute	Soprano pipistrelle per minute	Common pipistrelle per minute	Total bats per minute
9A	-4.14653	50.99294	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.16	0.26
9B	-4.14755	50.99366	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9C	-4.14515	50.99251	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.18
9D	-4.14762	50.99429	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.24	0.02	0.31
9E	-4.14545	50.99349	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.33	0.00	0.35
9F	-4.14413	50.99225	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.03	0.34
9G	-4.14583	50.99206	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.09
9H	-4.14840	50.99314	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9I	-4.14858	50.99411	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	1.03	0.51	1.56
9J	-4.14589	50.99415	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.08	0.00	0.17
9K	-4.14407	50.9934	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25
9L	-4.14463	50.9942	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.34	0.07	0.57
9M	-4.14304	50.99296	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	1.10	0.95	2.14
9N	-4.14897	50.99553	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.06	0.17
9O	-4.14932	50.99634	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	1.05
9P	-4.14864	50.99468	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9Q	-4.14992	50.99682	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.04	0.06	0.12
9R	-4.15006	50.99553	0.00	0.00	0.00	0.00	0.05	0.00	0.08	0.00	0.28	0.00	0.41
9S	-4.14238	50.99273	0.00	0.00	0.00	0.06	1.11	0.00	0.00	0.00	0.00	0.00	1.17
9T	-4.14313	50.992	0.00	0.00	0.00	0.00	2.33	0.00	0.00	0.00	0.00	0.00	2.33
9U	-4.14184	50.99325	0.00	0.00	0.00	0.00	1.67	0.00	0.58	0.00	2.17	2.58	7.00
9V	-4.14158	50.99256	0.00	0.00	0.00	0.00	0.69	0.00	0.31	0.00	1.31	0.38	2.69
9W	-4.14345	50.99158	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9X	-4.14215	50.99177	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.06	0.00	0.61
9Y	-4.14878	50.99307	0.00	0.00	0.00	0.00	0.04	0.00	0.14	0.00	0.06	0.06	0.30
9Z	-4.14805	50.99583	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.09	0.14	0.26
10A	-4.14611	50.99631	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10B	-4.14675	50.99751	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.04	0.11
10C	-4.14504	50.99542	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10D	-4.14442	50.99661	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.08	0.12
10E	-4.14651	50.99801	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.48
10F	-4.14821	50.99778	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.08	0.12
Total			0.00	0.00	0.00	0.00	0.24	0.00	0.03	0.00	0.22	0.21	0.71

Transect 2 x remote (11, 12)

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Client: Xlin
Project: Xlin
Title: Cal

Status: DRAFT
Project Number: OXF11809
Figure Number: 1.j
rpsgroup.com



Bat activity is plotted at a spatial density of 50m with each node on the colour ramp representing 10% of selected dataset. The lowest 10% of data is uncoded. The spatial density plot is relative to the illustrated bat data and does not reflect national bat activity levels.

Title: Compounds 9 and 10 Bat Activity Map
Map No. 22/3987.01-06
Site: Xlinks Alverdiscott, Bideford
Client: RPS

Date December 2022

Drawn by: AP
Checked by: CI





Xlinks Alverdiscott, Bideford
Bat Activity Transects and
Remote Detector Surveys

Report No: 22/3987.02
Date: November 2023
Client: Xlinks Alverdiscott



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1 Methodology

1.1 Methodology

In the spring of 2023, DWC was commissioned to undertake updated bat activity surveys along the proposed Xlinks Alverdiscott cable route. Six survey areas were identified where works were considered to have the potential to impact bat populations; these are referred to as Bat Survey Area 1 to 6. It should be noted that these survey areas differ from those subject to assessment in 2022. A total of 8 remote detector deployments and 6 bat transect surveys were undertaken each month along the route of the proposed cable.

The remote detector surveys were undertaken with Wildlife Acoustics Song Meter 4 Minis (SM4Mini) deployed along hedgerows and woodland edges throughout the survey season. To ensure that the compounds were fully monitored, the SM4Minis were moved on a pre-planned schedule to ensure every linear feature was surveyed over the season and that each general habitat of the survey area was monitored each season. Recordings were analysed using Wildlife Acoustics Kaleidoscope Pro software and vetted by a competent ecologist. A 'pass' was defined as greater than two navigation calls of one bat species within ten seconds. The raw data was used to calculate passes per night (ppn), allowing cross comparison between deployments with different survey efforts.

Prior to commencing the bat activity transect, aerial photography was utilised to identify habitat features that bats could potentially utilise. Transect points were identified to represent each habitat feature in the survey area. During the survey, a transect was walked, which covered most transect points within the survey area; each transect point was held for three minutes. Calls identified between transect points were assigned to the closest transect point, with additional survey time referencing a pre-defined mid-point between the two points. The exact route varied during each survey to account for variations in bat activity following sunset. Bat calls were recorded using a Peersonic RPA handheld detector and were subject to analysis via Wildlife Acoustics Kaleidoscope Pro software. Passes per minute (ppm) for each species per survey and per area were calculated to compare data with minor differences in survey effort.

Details of the weather conditions recorded during each activity survey are provided in Table 1.1.

Date	Start Time	Temp (°C)	Wind Speed (Beaufort Scale)	Cloud Cover %	Precipitation
15/05/2023	21:00	14	F1	0	None
23/05/2023	21:11	13	F0	0	None
31/05/2023	21:20	15	F0	0	None
07/06/2023	21:27	16	F1	0	None
15/06/2023	21:33	15	F1	0	None
26/06/2023	21:35	16	F1	50	None
11/07/2023	21:27	16	F2	70	None
18/07/2023	21:22	15	F1	100	None
25/07/2023	21:14	14	F1	0	None
08/08/2023	20:51	16	F2	100	None
15/08/2023	20:40	16	F0	10	None
21/08/2023	20:27	19	F2	80	None
05/09/2023	19:55	22	F0	0	None
12/09/2023	19:39	16	F2	100	None
26/09/2023	19:07	15	F2	0	None
18/10/2022	18:20	11	F2	0	None
03/10/2023	18:50	14	F2	50	Spitting
10/10/2023	18:35	16	F2	80	None
17/10/2023	18:20	13	F2	100	Showers

Table 1.1 Survey dates and weather conditions during bat activity surveys

2 Survey Results 2023

2.1 Bat Survey Area 1

The location and extent of Bat Survey Area 1 is based on RPS Drawing, Figure Number 1.19, dated March 2023. The proposed impact area is located at National Grid Reference SS 500 251. However, it was not possible to access the proposed impact area throughout the survey season. As a result, a proxy bat transect survey of the surrounding public open space areas was undertaken instead. The survey area was limited to the local road network near the survey area, comprising a double hedgebank bordering fields in an agricultural landscape and occasional wooded areas. Surveying in this area involved one transect survey walked every month between May and October (inclusive). Maps visualising the spatial usage of this site are presented in Appendix 1.

2.1.1 Transect Survey

During the transect surveys nine bat species were identified utilising the area. Species comprised common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, *Myotis* species, serotine, Leisler's bat *Nyctalus leisleri*, noctule *Nyctalus noctula*, *Plecotus* species, greater horseshoe bat *Rhinolophus ferrumequinum* and barbastelle *Barbastella barbastellus*. The bat species assemblage of this area scores 24 out of a possible 41 points (utilising the methodology set out in the Bat Methodology Guidelines 2023 for quantifying bat assemblages). This score represents an assemblage of **regional** importance to southwest England. Bat activity was generally low, with an average of less than one bat pass per survey minute (0.97ppm), with localised bat activity reaching a maximum of 1.75ppm in areas of the site.

Bat usage of the double hedge bank appears to support both commuting and foraging behaviour. Bat activity is highest where the road intersects other linear features and where wooded areas are close to the hedgebank, indicating that these points along the hedgerow have the most value to commuting and foraging bats utilising the area. Survey results indicate that light-sensitive species including barbastelle, lesser horseshoe bat, greater horseshoe bat, and individuals of the genera *Plecotus* and *Myotis* are associated with sections of hedgerow close to areas of tree cover.

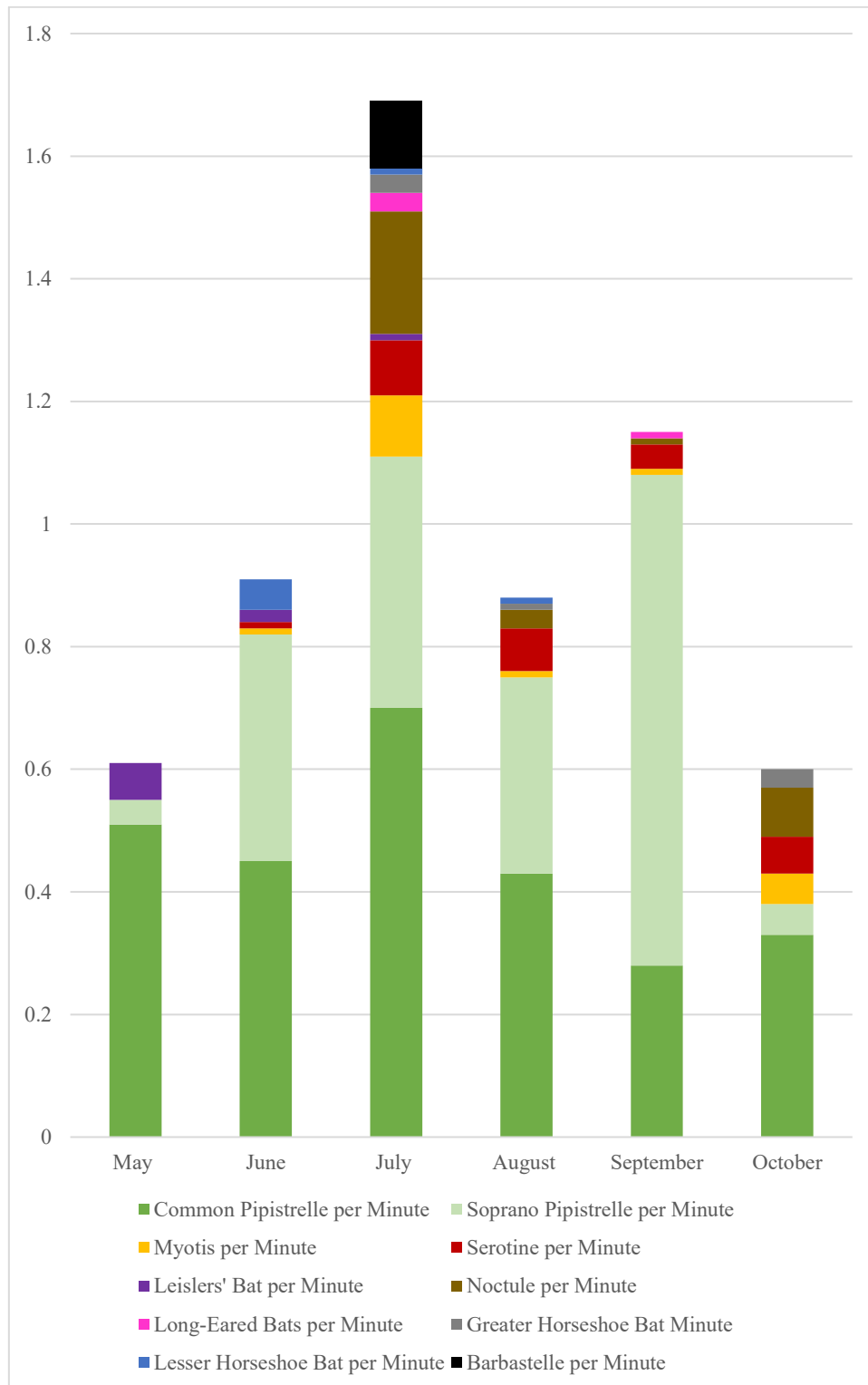
Common pipistrelle bats were the most frequently recorded species, with one pass being recorded approximately once every two minutes of survey effort (0.45ppm). Soprano pipistrelle bats were the second most frequently recorded bat, with one pass being recorded on average every three minutes of survey effort (0.33ppm). The six additional species and two genera recorded utilising the site were recorded sporadically across the year, with annual average of 0.05ppm. This indicates opportunistic foraging and commuting activity, and the site is considered unlikely to form an essential foraging or commuting area for these species. The activity over the year shows a typical distribution in line with ambient monthly temperature averages and presumed invertebrate prey abundance. The August bat activity results were however lower than expected. Recorded survey conditions between July and August are comparable. However, the Met Office recorded higher than average wind speed over August. The Alverdiscot substation is a topographically exposed site located on the brow of a hill; the

exposure of potential foraging and commuting routes to poor weather likely limits the importance of this area to sporadic opportunistic foraging and commuting by bats.

Results from the transect surveys are presented in Table 2.1 and Graph 2.1.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leisler's Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.51	0.04	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.60
June	0.45	0.37	0.01	0.01	0.02	0.00	0.00	0.05	0.00	0.00	0.91
July	0.70	0.41	0.10	0.09	0.01	0.20	0.03	0.01	0.03	0.11	1.70
August	0.43	0.32	0.01	0.07	0.00	0.03	0.00	0.01	0.01	0.00	0.87
September	0.28	0.80	0.01	0.04	0.00	0.01	0.01	0.00	0.00	0.00	1.16
October	0.33	0.05	0.05	0.06	0.00	0.08	0.00	0.00	0.03	0.00	0.60
Average	0.45	0.33	0.03	0.05	0.02	0.05	0.01	0.01	0.01	0.02	0.97

Table 2.1: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 1



Graph 2.1: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 1

2.1.2 Conclusion

The boundary features of Bat Survey Area 1 are utilised at low levels by a diverse assemblage of bat species. The bat usage of the site appears dependent on invertebrate abundance. The most frequently utilised features of the site are where its boundary intersects with other hedgerows and borders small woodlands. The site is utilised by a regionally important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these species utilise the site in low numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.2 Bat Survey Area 2

The location and extent of Bat Survey Area 2 is based on RPS Drawing Figure Number 1.40, dated March 2023. The survey area is situated at National Grid Reference SS 473 254. The area comprises two arable fields currently utilised for cereal crops and is surrounded by hedgebanks. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. Maps visualising the spatial usage of this site are presented in Appendix 2.

2.2.1 Transect Survey

During the transect surveys five bat species were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, serotine, noctule, and greater horseshoe bat. The species assemblage of this area scores 10 out of a possible 41 points indicating that the assemblage of bats is of **site** importance only. A bat was recorded approximately once every three minutes of survey time (0.30ppm). The most frequently recorded bat was the common pipistrelle, with approximately one bat pass every 3 minutes (0.27ppm) and a maximum localised activity of 1.57ppm.

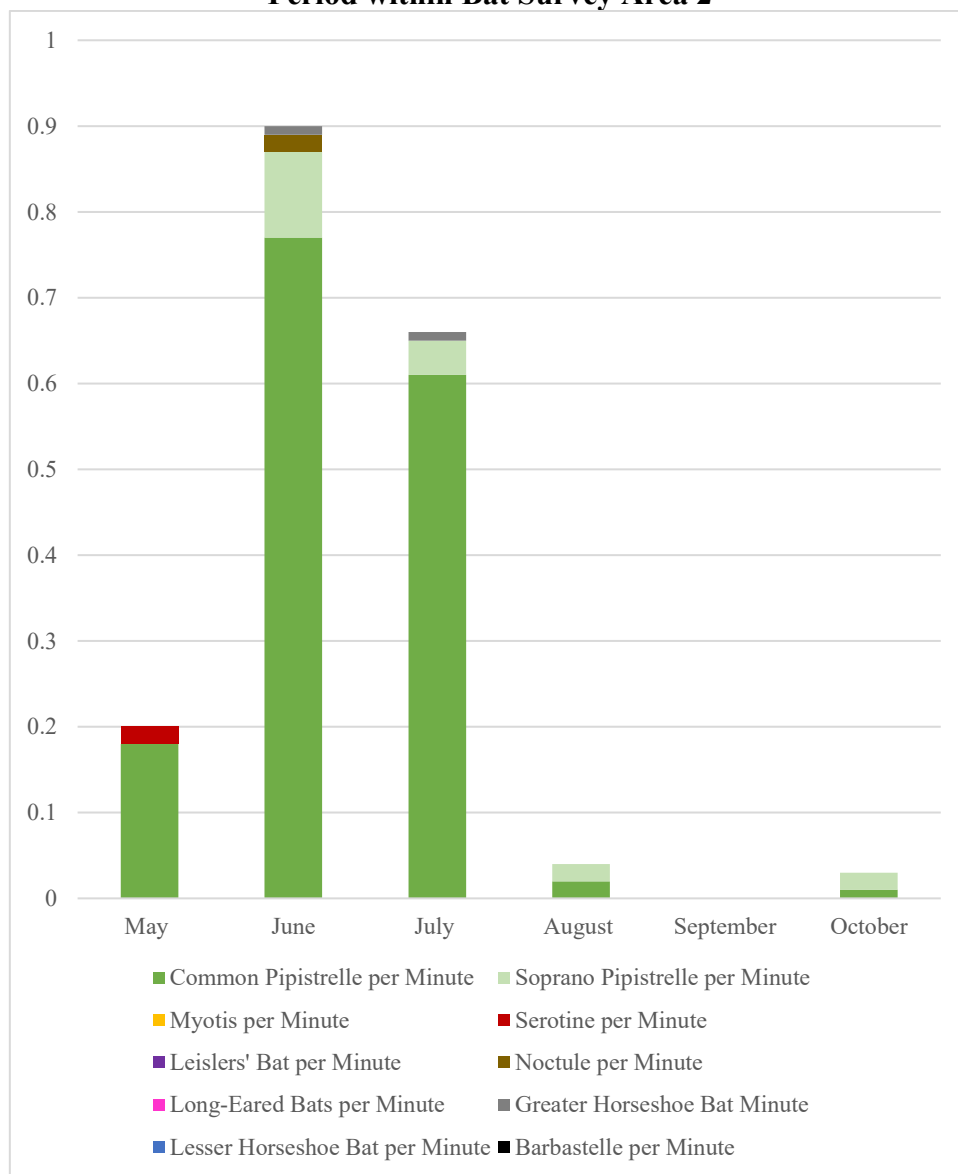
Bat activity was concentrated along the northern hedgebank, particularly along the border of the residential garden. This is likely linked to common pipistrelle foraging within the light spill of the residential property. Bat activity decreased significantly following July. This is likely in line with arable rotations within nearby fields, reducing the local insect population.

The transect surveys identified low levels of greater horseshoe bat and long-eared bat activity. Activity was located along the eastern and western borders of the survey area where light spill from the adjacent property was less significant than the northern hedgebank.

Results from the transect surveys are presented in Table 2.2 and Graph 2.2.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leislers' Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.18	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.19
June	0.77	0.10	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.89
July	0.61	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.66
August	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Average	0.27	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30

Table 2.2: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 2



Graph 2.2: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 2

2.2.2 Remote Detector Survey

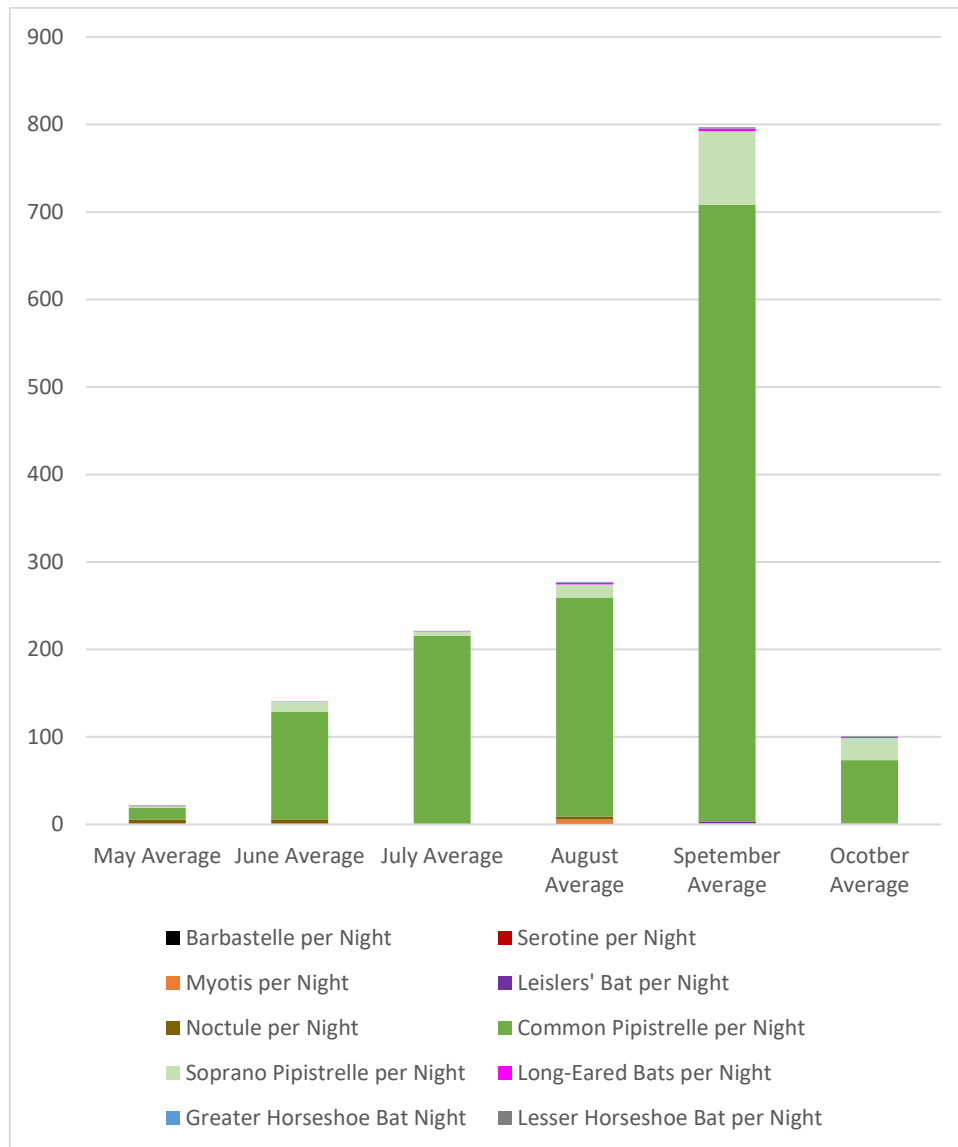
During the transect surveys eight bat species and two genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, Leisler's bat, noctule, *Plecotus* species, greater horseshoe bat, lesser horseshoe bat *Rhinolophus hipposideros* and barbastelle. The species assemblage of this area scores 24 out of a possible 41 indicating an assemblage of **regional** importance to southwest England. Bat activity onsite was recorded at an average of 389.18ppn. Most bat passes recorded within the survey area were identified as common pipistrelle calls, which, on average, comprised 344.80ppn. Soprano pipistrelle bats were the second most commonly recorded bat, with an average of 35.64ppn, approximately one-tenth of common pipistrelle activity.

In contrast to the transect survey results, bat passes were most frequently recorded in September. This is most likely due to a nightly average of 1033ppn being identified from a deployment along the northern boundary of the survey area. These recorded bat calls are potentially representative of song flights of a male from a nearby mating roost. Myotids, noctules and long-eared bats utilised the site in low numbers throughout the year. All three species show a decline in site usage in July as opposed to June, indicating that there are no maternity roosts of these species within the area and that these species utilise the site during their transitional stage. Barbastelle, serotine, Leisler's bat, greater horseshoe bat and lesser horseshoe bat occasionally utilise the site in low numbers, indicating sporadic and opportunistic foraging behaviour.

Results from the remote detector surveys are presented in Table 2.3 and Graph 2.3.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leisler's Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat Night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	0.00	0.29	0.29	0.00	4.57	5.00	2.00	0.29	0.14	0.29	12.86
May B	0.00	0.25	0.25	0.00	5.25	22.13	1.50	0.13	0.13	0.00	29.63
June A	0.00	0.18	0.27	0.00	1.64	67.45	2.91	0.00	0.00	0.00	72.45
June B	0.00	0.00	0.00	0.00	9.18	178.45	19.73	0.09	0.00	0.00	207.45
July A	0.00	0.00	0.00	0.00	0.00	307.25	3.75	0.50	0.00	0.00	311.50
July B	0.00	0.00	0.00	0.00	0.00	124.50	5.88	0.00	0.00	0.38	130.76
August A	1.14	2.43	1.57	0.00	3.29	474.57	17.14	0.43	0.43	0.43	501.43
August B	0.00	0.00	6.50	0.00	3.00	26.00	13.00	3.50	0.50	0.50	53.00
September A	0.14	0.00	2.57	0.29	1.71	1033.00	26.14	1.86	0.57	0.29	1066.57
September B	0.00	0.25	2.00	0.00	0.00	376.75	142.25	4.00	0.25	1.50	527.00
October A	0.14	0.00	1.14	0.00	0.71	23.29	42.14	0.57	0.14	0.00	68.13
October B	0.33	0.00	1.00	0.00	0.00	120.00	8.67	1.33	0.00	1.33	132.66
Average	0.22	0.43	1.95	0.04	3.67	344.80	35.64	1.59	0.27	0.59	389.18

Table 2.3: Bat passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 3



Graph 2.3: Bat Passes per Night for Each Species Recorded Monthly during the Survey Period within Bat Survey Area 2

2.2.3 Conclusion

The site consists of arable fields and hedgerows; potential bat foraging habitat is limited to the site's hedgerows, particularly the site's northern hedgerow, which borders a residential garden. This area provides foraging to common light-tolerant species, which are unlikely to be impacted by the proposals. Light-sensitive species sporadically utilise the site, primarily confined to areas unaffected by light spills from the property bordering the northern boundary on the eastern and western boundaries of the survey areas. The site is utilised by a regionally important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these species utilise the site in low

numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.3 Bat Survey Area 3

The location and extent of Bat Survey Area 3 is based on RPS Drawing Figure Number 1.38, dated March 2023. The proposed impact area is located at National Grid Reference SS 442 243. The site consists of a wooded gully separating three improved grassland fields from a semi-improved field. Hedgebanks bound the improved fields. The site was surveyed from the west of the gully due to access issues associated with the east of the survey area. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. Due to access issues at this site, only one remote detector could be deployed in September and October.. Maps visualising the spatial usage of this site are presented in Appendix 3.

2.3.1 Transect Survey

During the transect surveys four bat species and one gerera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine and noctule. The species assemblage of this area scores 8 out of a possible 41 indicating an assemblage of bats of **site** importance only. A bat was recorded approximately once every minute and a half of the survey effort (0.65ppm), with a maximum of 1.41ppm identified within localised areas.

The majority of site activity was identified as common and soprano pipistrelle bat passes, with common pipistrelle being recorded on average once every four minutes (0.24ppm) and soprano pipistrelle being recorded once every five minutes (0.21ppm). Serotine and noctule bat passes made up a significant proportion of activity from the transect surveys. the majority of activity for both species was associated with the central and southern hedgerows. Both species' usage of these hedgerows appears to be associated with commuting behaviour. The increase in serotine activity during the maternity period, indicates there is potential that these hedgerows form a commuting route to and from a serotine maternity roost. However, overall the number of bats utilising this route is low.

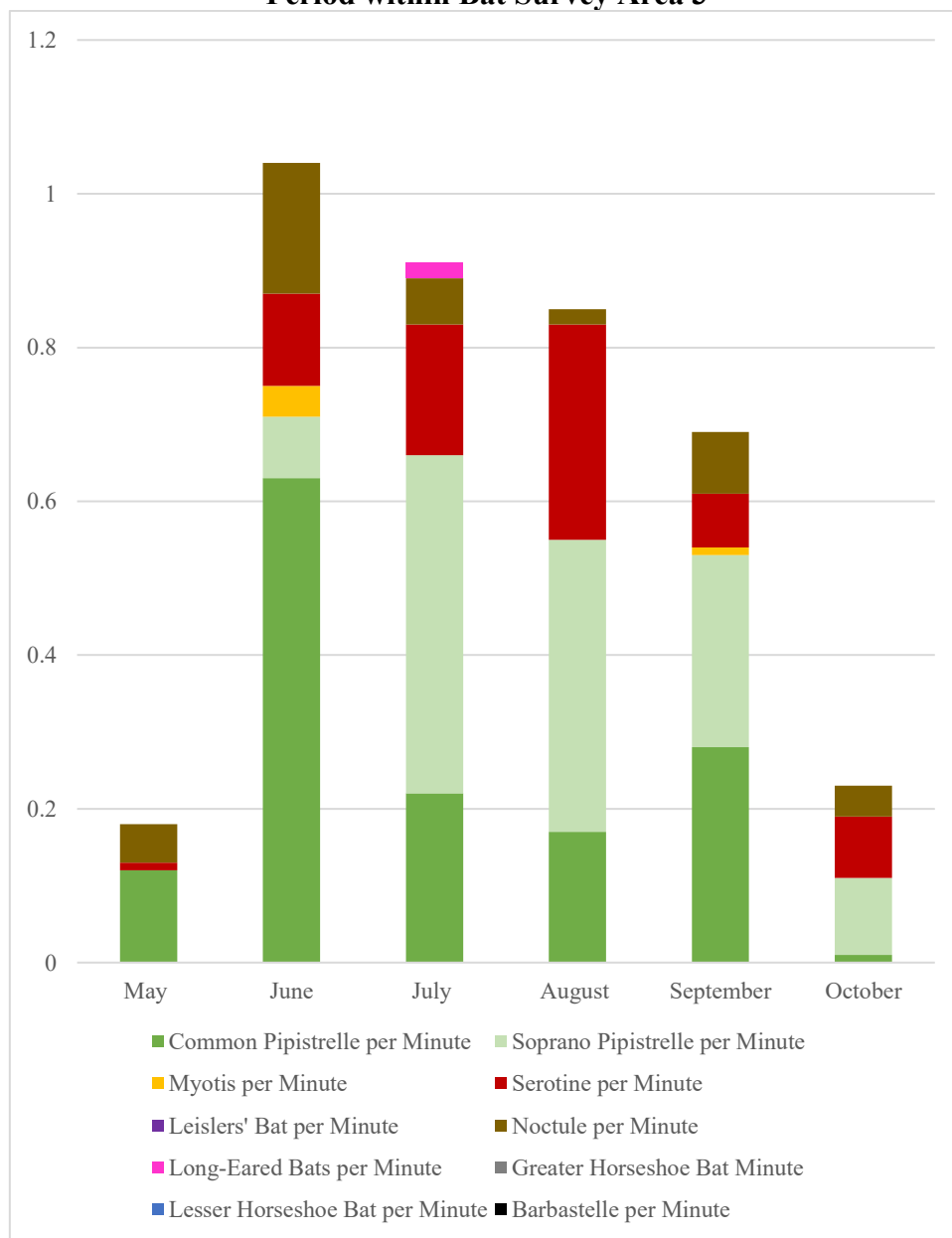
Bat usage of the site is concentrated on western aspects of hedgerows and woodland edge. This contrasts almost every other survey area within the wider site along the cable route, where eastern aspects are generally preferred. This could potentially be due to the sheltered location of the site limiting the adverse effects of weather from the Atlantic. With this effect limited, the western aspects of the hedgerows could be providing warm microclimates with high levels of insect activity and therefore providing ideal foraging opportunities for bats.

It should be noted that no greater horseshoe bats, lesser horseshoe bats or barbastelle were identified during the transect surveys.

Results from the transect surveys are presented in Table 2.4 and Graph 2.4.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leislers' Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.12	0.00	0.00	0.01	0.00	0.05	0.00	0.00	0.00	0.00	0.18
June	0.63	0.08	0.04	0.12	0.00	0.17	0.00	0.00	0.00	0.00	1.03
July	0.22	0.44	0.00	0.17	0.00	0.06	0.02	0.00	0.00	0.00	0.91
August	0.17	0.38	0.00	0.28	0.00	0.02	0.00	0.00	0.00	0.00	0.84
September	0.28	0.25	0.01	0.07	0.00	0.08	0.00	0.00	0.00	0.00	0.68
October	0.01	0.10	0.00	0.08	0.00	0.04	0.00	0.00	0.00	0.00	0.23
Average	0.24	0.21	0.01	0.12	0.00	0.07	0.00	0.00	0.00	0.00	0.65

Table 2.4: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 3



Graph 2.4: Bat Passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 3

2.3.2 Remote Detector Survey

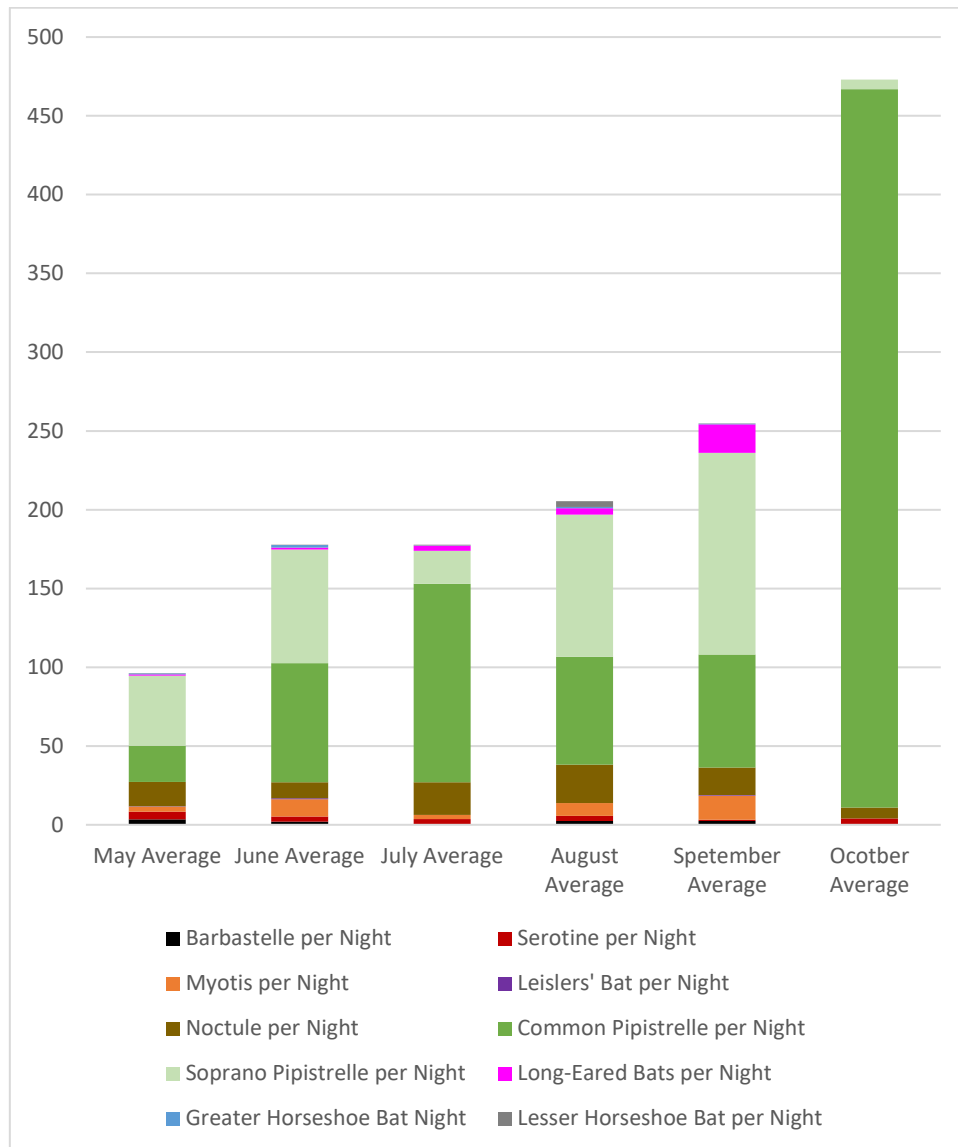
During the remote detector surveys eight species and two genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, Leisler's bat, noctule, *Plecotus* species, greater horseshoe bat, lesser horseshoe bat and barbastelle. The species assemblage of this area scores 24 out of a possible 41 indicating an assemblage of **regional** importance to southwest England. General activity throughout the year is roughly constant, averaging 340.30ppn. Activity was highest during October with 473ppn. This is likely due to the sheltered location of the site at the bottom of a valley, which provides late-season foraging opportunities to bats as the weather deteriorates.

The remote detector survey identified common pipistrelle bats more frequently utilising the site than during the transect surveys. However, this is likely influenced by the significant increase in common pipistrelle activity in October. Discounting October, common and soprano pipistrelle activity levels are comparable to the transect results. The remote detector survey also identified a lower proportion of bat activity resulting from serotine and noctule bats and increased proportions of barbastelle, myotis, long-eared, and greater and lesser horseshoe bat activity. All bat species were recorded constantly throughout the survey season.

Results from the remote detector surveys are presented in Table 2.5 and Graph 2.5.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leisler's Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat Night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	3.63	0.63	2.13	0.13	8.00	29.88	87.13	1.75	0.25	0.00	133.53
May B	3.18	9.00	4.64	0.00	23.00	16.09	1.73	0.00	0.82	0.09	58.55
June A	0.82	1.65	6.35	0.65	7.18	63.06	91.59	1.94	0.41	0.12	173.77
June B	3.25	4.88	15.5	0.50	13.13	88.25	52.75	0.25	2.88	0.25	181.64
July A	0.13	2.38	2.5	0.00	7.13	1.75	0.88	0.88	0.13	0.13	15.91
July B	0.00	4.75	2.75	0.00	34.50	250.25	40.75	5.50	0.50	0.75	339.75
August A	2.00	2.00	3.00	0.00	8.00	110.00	73.67	5.33	1.67	2.33	208.00
August B	2.75	4.50	13.25	0.00	41.00	26.75	107.00	2.50	0.25	5.00	203.00
September A	2.50	0.67	15.33	0.33	17.50	71.83	128.00	18.00	0.33	0.17	254.66
October A	0.00	4.00	0.00	0.00	70.00	456.00	6.00	0.00	0.00	0.00	473.00
Average	3.04	5.74	10.91	0.27	27.74	185.64	98.25	6.03	1.21	1.47	340.30

Table 2.5: Bat Passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 3



Graph 2.5: Bat Passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 3

2.3.3 Conclusion

The location of the site within a valley bottom provides sheltered western aspects, strong linear features, and dark corridors, which are essential for the local bat population. The site is an important foraging area for common and soprano pipistrelle bats, particularly during periods of poor weather. The site appears to form important commuting routes for noctule and serotine bats along the hedgerows to the south of the site and to light-sensitive species along the woodland edge in the valley bottom. The site is utilised by a **regionally** important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these species utilise the site in low

numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.4 Bat Survey Area 4

The location and extent of Bat Survey Area 4 is based on RPS Drawing Figure Number 1.35, dated March 2023. The proposed impact area is located at National Grid Reference SS 418246. The survey area comprises two improved grassland fields separated by a road and flanked by hedgebanks. A small, wooded copse is located to the south of the site. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. Maps visualising the spatial usage of this site are presented in Appendix 4.

2.4.1 Transect Survey

During the transect surveys five bat species and two genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, noctule, *Plecotus* species, greater horseshoe bat and barbastelle. The species assemblage of this area scores 7 out of a possible 41, indicating a bat assemblage of **site** importance only. A bat was recorded approximately once every two minutes of survey effort (0.55ppm), with a maximum of 1.73ppm identified within a localised area.

The majority of bat activity on site was identified as common pipistrelle bat passes. During the survey, one was recorded on average every three minutes (0.31ppm). Soprano pipistrelle bats were the second most frequently recorded bat (0.14ppm). Low levels of myotid, noctule, long-eared, greater horseshoe, and lesser horseshoe bats were recorded during the season.

Bat activity was highest in June, with usage of the site by bats decreasing over the summer. No bat activity was identified during October. The site is on the brow of a hill and within an arable landscape. Arable management likely reduces the foraging potential of the area throughout the summer. In addition the exposed nature of the survey area is likely to further decrease the use of the site by bats.

Bat usage of the site is concentrated along onsite road boundaries located centrally and along the northern boundary of the site. These features all comprise double hedgebanks which is considered the most valuable habitat on site.

Results from the transect surveys are presented in Table 2.6 and Graph 2.6.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leislers' Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.14	0.01	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.23
June	0.94	0.68	0.04	0.00	0.00	0.18	0.01	0.00	0.00	0.00	1.80
July	0.62	0.06	0.00	0.00	0.00	0.10	0.10	0.01	0.00	0.00	0.89
August	0.02	0.04	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.08
September	0.15	0.06	0.03	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.27
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average	0.31	0.14	0.01	0.00	0.00	0.06	0.02	0.00	0.00	0.00	0.55

Table 2.6: Bat passes per Minute for Each Species Recorded Monthly over the Survey Season within Bat Survey Area 4

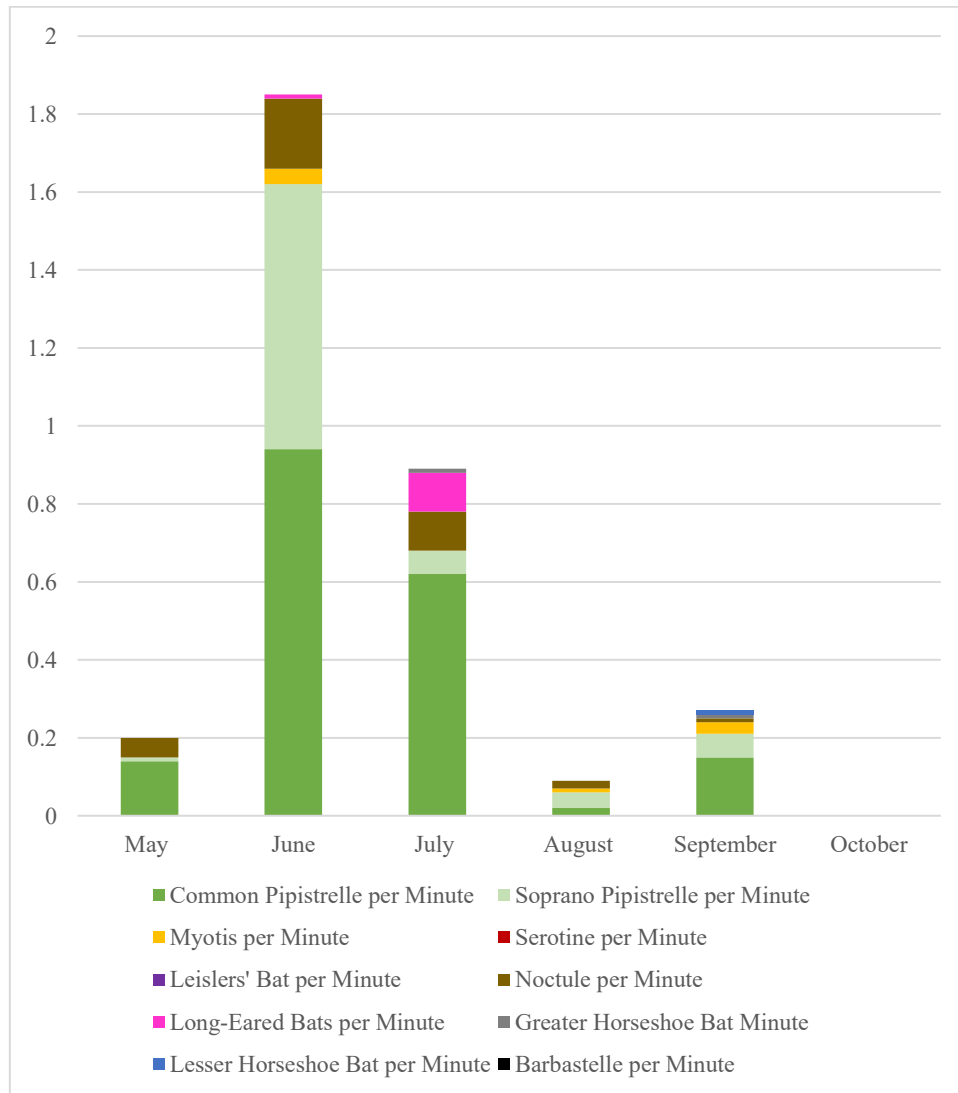


Table 2.6: Bat Passes per Minute for Each Species Recorded Monthly over the Survey Season within Bat Survey Area 4

2.4.2 Remote Detector Survey

During the transect surveys eight bat species and two genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, Leisler's bat, noctule, *Plecotus* species, greater horseshoe bat, lesser horseshoe bat and barbastelle. The species assemblage of this area scores 24 out of a possible 41 indicating an assemblage of **regional** importance to southwest England. General activity throughout the year is roughly constant, with an average of 220.79ppn. The exception to this was during one of the September remote detector deployments, where 742ppn were recorded. The large number of bat calls identified within this month is potentially due to the proximity of a suspected soprano pipistrelle mating roost within the vicinity of the survey area; on average, a soprano pipistrelle passed this detector 543.67 times per night in September.

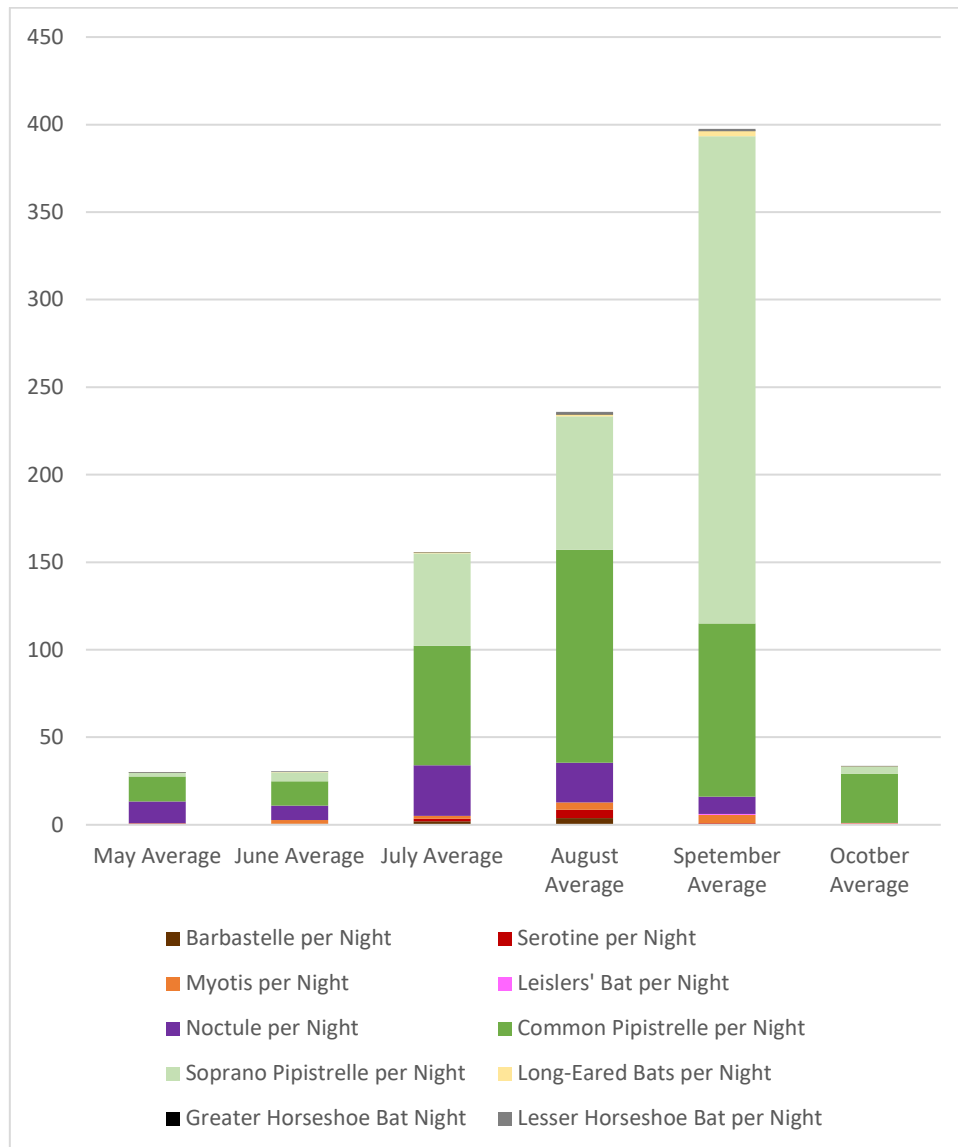
The two most frequently recorded species of bat were common and soprano pipistrelle bats. Common pipistrelle is the most frequently recorded species on site; however, due to the number of soprano pipistrelles recorded during September, soprano pipistrelle averages a higher number of passes per night.

Remote detectors recorded significant numbers of noctules utilising the site; noctule usage of the site peaks in July, indicating the possibility of a nearby potential maternity roost foraging area. The survey of Compound 3 in 2022, which borders this survey area, also identified a similar pattern of noctule activity. Most other bat species are recorded at consistently low levels across the season.

Results from the remote detector surveys are presented in Table 2.7 and Graph 2.7.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leisler's Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat Night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	0.25	0.50	0.25	0.00	11.63	25.75	3.38	0.00	0.13	0.38	42.27
May B	0.38	0.13	0.38	0.00	13.13	2.63	1.00	0.13	0.00	0.13	17.91
June A	0.13	0.88	4.25	0.00	10.63	20.88	7.63	0.25	0.25	0.13	45.03
June B	0.00	0.00	0.13	0.00	5.75	6.88	2.75	0.13	0.00	0.00	15.64
July A	4.00	2.71	2.57	0.00	46.29	115.86	98.43	1.00	0.43	0.00	271.29
July B	0.14	0.14	0.71	0.00	11.29	20.57	7.43	0.00	0.14	0.00	40.42
August A	6.50	3.25	5.00	0.00	12.25	135.25	87.75	1.50	0.50	1.25	253.25
August B	1.25	6.00	3.75	0.00	33.00	108.00	64.50	1.00	0.50	0.50	218.50
September A	0.00	0.00	6.50	0.00	3.00	26.00	13.00	3.50	0.50	0.50	53.00
September B	0.67	1.00	3.00	1.33	16.67	172.00	543.67	2.33	0.00	1.33	742.00
October A	0.00	0.00	0.30	0.00	0.10	0.50	2.30	0.00	0.00	0.00	3.20
October B	0.43	0.00	1.14	0.14	0.00	55.43	6.14	0.43	0.14	0.00	63.85
Average	1.72	1.83	3.50	0.18	20.47	86.22	104.75	1.28	0.32	0.53	220.79

Table 2.7: Bat Passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 4



Graph 2.7: Bat Passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 4

2.4.3 Conclusion

The site appears to support low bat activity levels, with higher levels during September, which could potentially be linked to soprano pipistrelle breeding behaviour. The increase in noctule activity over the summer indicates potential foraging areas and commuting routes for a maternity roost. This supports previous surveys in the nearby Compound 3 in 2022, which came to similar conclusions. Noctule and soprano pipistrelle bats are widespread, light-tolerant species unlikely to be impacted by the proposed development. The site supports low numbers of light-sensitive bats, which the proposal could impact. The site is utilised by a **regionally** important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these

species utilise the site in low numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.5 Bat Survey Area 5

The location and extent of Bat Survey Area 5 is based on RPS Drawing Figure Number 1.35, dated March 2023. The proposed impact area is located at National Grid Reference SS 416253. The survey area comprises two leys separated by a hedgebank. The western field is bordered to the north by the A39 trunk road and is flanked by a line of trees. The northern boundary of the eastern field is bound by a ditch lined by trees along its eastern extent. Bat activity surveys comprised monthly transect and remote detector surveys from May to October (inclusive); two remote detectors were deployed each month. Maps visualising the spatial usage of this site are presented in Appendix 5.

2.5.1 Transect Survey

During the transect surveys four bat species and one genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine and noctule bats. The species assemblage of this area scores 9 out of a possible 41 indicating a bat assemblage of **site** importance only. Bat activity was recorded at low levels, with a bat being recorded approximately once every six and a half minutes of survey effort (0.16ppm). The majority of this activity comprised common and soprano pipistrelle bats. The site also supports low numbers of *Myotis*, serotine and noctule bats.

The highest activity levels were detected during April and September. This is likely due to the area being utilised for silage cutting over the summer months, limiting the value of the foraging areas available.

No greater horseshoe, lesser horseshoe or barbastelle bats were identified during the transect surveys.

Results from the transects surveys are presented in Table 2.8 and Graph 2.8.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leislers' Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.15	0.21	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.38
June	0.05	0.01	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.16
July	0.02	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
August	0.01	0.05	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.08
September	0.14	0.07	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.26
October	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Average	0.07	0.06	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.16

Table 2.8: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 5

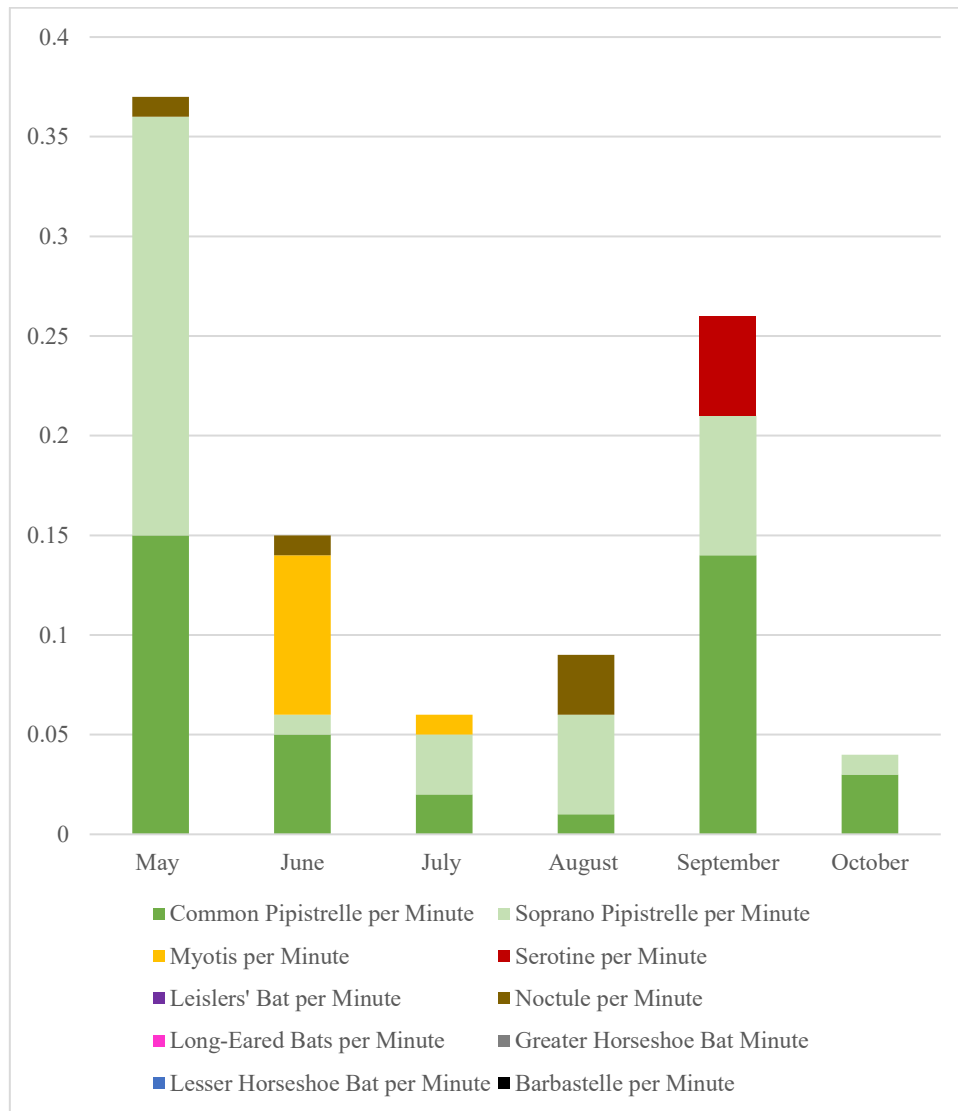


Table 2.8: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 5

2.5.2 Remote Detector Survey

During the remote detector surveys eight bat species and two genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, Leisler's bat, noctule, *Plecotus* species, greater horseshoe bat, lesser horseshoe bat and barbastelle. The species assemblage of this area scores 24 out of a possible 41 indicating an assemblage of **regional** importance to southwest England. As with the transect survey, the most frequently identified species were common pipistrelle, followed by the soprano pipistrelle bats.

In September, common and soprano pipistrelle bat activity peaked in the transect and remote detector surveys, indicating a transitional foraging area or potential nearby mating roost. *Myotis* activity on site peaked in June during both transect and remote surveys but decreased in July, indicating a potential transitional foraging area.

Low levels of activity for other bat species were recorded throughout the survey season, indicating sporadic and opportunistic site usage.

Results from the remote detector surveys are presented in Table 2.9 and Graph 2.9.

Month	Barbastelle per Night	Serotine per Night	Myotis per Night	Leisler's Bat per Night	Noctule per Night	Common Pipistrelle per Night	Soprano Pipistrelle per Night	Long-Eared Bats per Night	Greater Horseshoe Bat Night	Lesser Horseshoe Bat per Night	Total Bats per Night
May A	0.38	0.63	8.25	0.25	2.50	83.75	16.13	4.75	0.50	2.00	119.14
May B	0.00	0.29	0.29	0.00	4.86	13.14	11.00	2.86	0.14	0.14	32.72
June A	0.88	0.25	4.75	0.00	10.13	36.13	13.63	1.13	0.13	0.13	67.16
June B	0.38	1.88	19.25	0.25	13.38	85.13	36.00	2.38	0.25	0.00	158.90
July A	1.58	0.42	7.00	0.00	2.92	22.92	58.33	1.25	2.33	1.58	98.33
July B	0.00	0.00	1.29	0.00	2.00	2.71	4.71	0.00	0.00	0.00	10.72
August A	2.00	2.00	3.00	0.00	8.00	110.00	73.67	5.33	1.67	2.33	208.00
August B	0.43	1.71	1.86	0.00	6.43	85.57	34.43	0.71	2.14	1.57	134.85
September A	2.33	0.33	8.17	0.00	7.00	702.67	191.00	3.67	0.33	1.00	916.50
September B	0.67	0.00	7.50	0.17	5.67	193.83	135.83	4.67	0.33	0.00	348.67
October A	0.00	0.00	0.38	0.00	0.13	8.50	3.88	0.63	0.13	0.00	13.65
October B	0.25	0.00	0.25	0.25	0.25	3.00	11.25	0.00	0.00	0.00	15.25
Average	1.11	0.94	7.75	0.12	7.91	168.42	73.73	3.42	0.99	1.09	265.49

Table 2.9: Bat passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 5

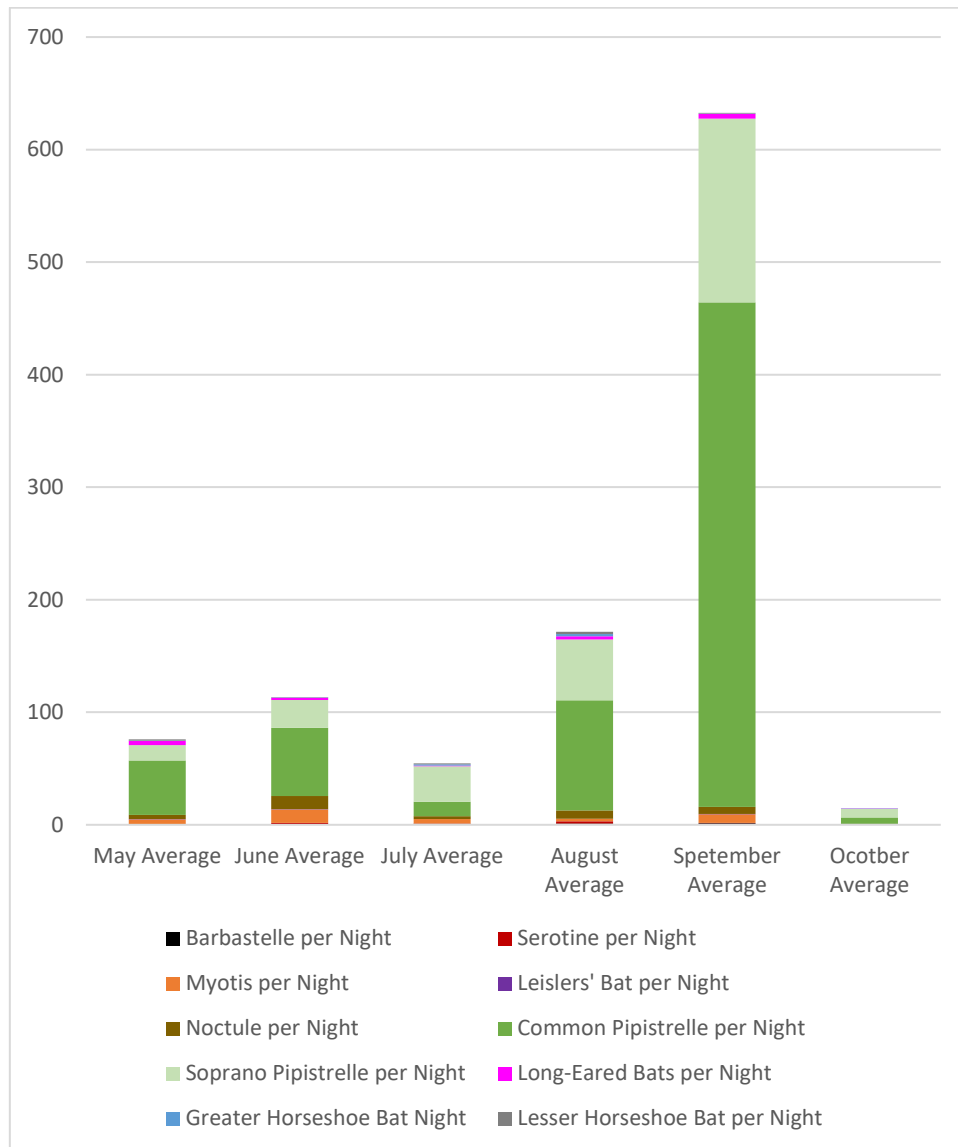


Table 2.9: Bat passes per Night for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 5

2.5.3 Conclusion

Overall this survey area appears to support low levels of bat activity, with higher levels of activity recorded during the autumn. The majority of bat usage on the site was identified as pipistrelle bat activity; pipistrelle bats are relatively light tolerant species and are unlikely to be significantly impacted by the proposals. The site is utilised by a **regionally** important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these species utilise the site in low numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.6 Bat Survey Area 6

Report 22/3987.02 Bat Activity Transects and Remote Detector Surveys– Xlinks Alverdiscott, Bideford

The location and extent of Bat Survey Area 6 is based on RPS Figure Number 1.33, dated March 2023. The proposed impact area is located at National Grid Reference SS 422270. The area supports a stream running through the middle of a valley bottom. No site access is possible; therefore, surveying was undertaken from the surrounding public open space areas. Bat activity surveys comprised monthly transect surveys from May to October (inclusive). Maps visualising the spatial usage of this site are presented in Appendix 6.

2.6.1 Transect Survey

During the transect surveys eight bat species and one genera were identified utilising the area. Species comprised common pipistrelle, soprano pipistrelle, *Myotis* species, serotine, Leisler’s bat, noctule, *Plecotus* species, greater horseshoe bat lesser horseshoe bat and barbastelle. The species assemblage of this area scores 24 out of a possible 41 indicating an assemblage of **regional** importance to southwest England. The majority of bat activity was attributed to common pipistrelle bats.

Bat activity within this area is low, with an average of less than one pass per minute. However, local activity around the watercourse was much higher, with a maximum of 1.94ppm recorded at a nearby transect point. The majority of bat activity was attributed to common pipistrelle bats with an average of 0.41ppm. The site is notable for the number of light-sensitive bat species recorded during the activity survey, with roughly a quarter of the bat data associated with long-eared bats, greater horseshoes, lesser horseshoes, and barbastelle. This is likely due to the quality of the dark habitat within the survey area. These species were most frequently recorded in spring and autumn, indicating that the site is primarily utilised by bats transitioning between their summer and winter roosts.

Results from the remote detector surveys are presented in Table 2.10 and Graph 2.10.

Month	Common Pipistrelle per Minute	Soprano Pipistrelle per Minute	Myotis per Minute	Serotine per Minute	Leislers' Bat per Minute	Noctule per Minute	Long-Eared Bats per Minute	Greater Horseshoe Bat Minute	Lesser Horseshoe Bat per Minute	Barbastelle per Minute	Total Bats per Minute
May	0.18	0.41	0.01	0.00	0.00	0.18	0.41	0.04	0.00	0.01	0.65
June	0.06	0.22	0.00	0.02	0.00	0.06	0.22	0.00	0.00	0.00	0.30
July	0.15	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.19
August	0.52	0.21	0.00	0.00	0.00	0.00	0.01	0.01	0.06	0.00	0.81
September	0.23	0.08	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.34
October	1.31	0.03	0.00	0.00	0.04	0.00	0.00	0.10	0.00	0.00	1.47
Average	0.41	0.16	0.00	0.00	0.01	0.04	0.11	0.03	0.01	0.00	0.63

Table 2.10: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 6

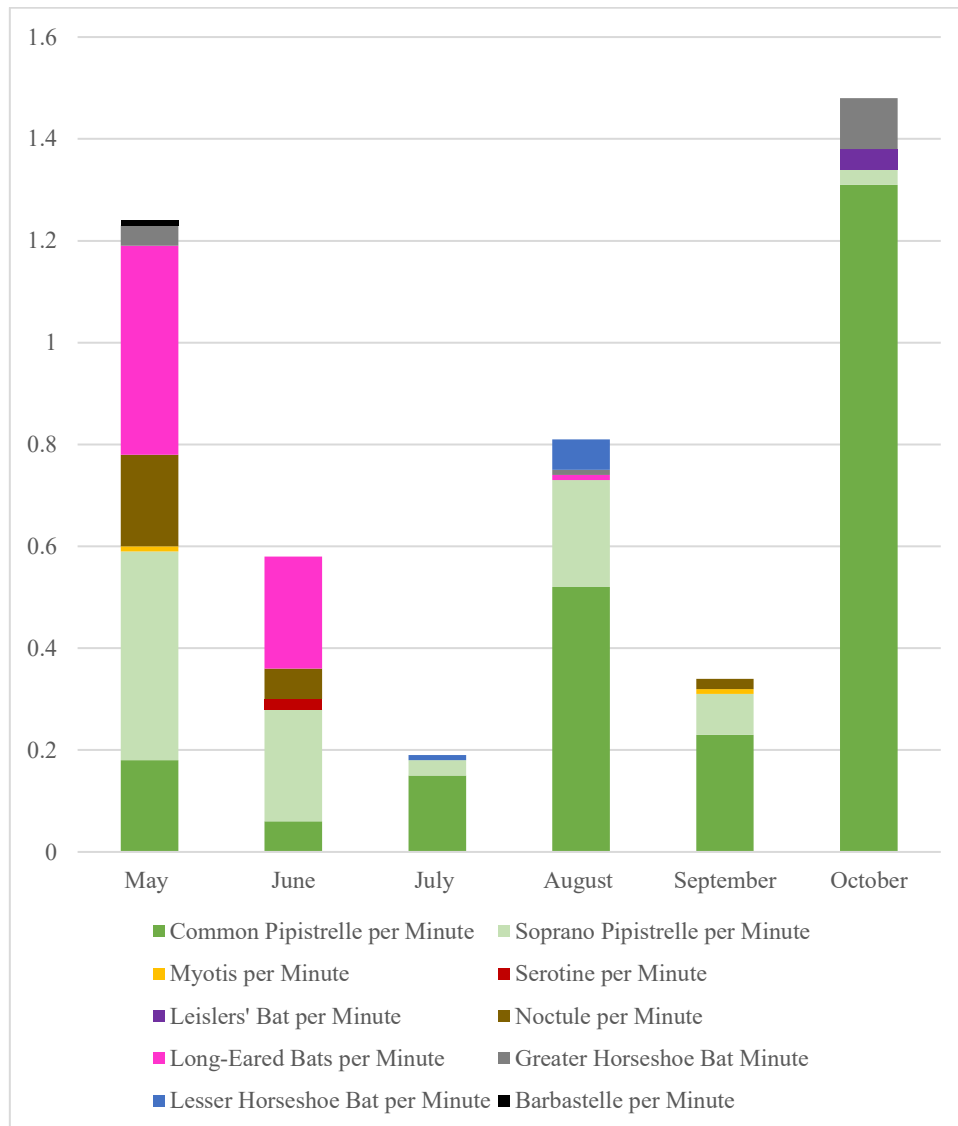


Table 2.10: Bat passes per Minute for Each Species Recorded Monthly over the Survey Period within Bat Survey Area 6

2.6.2 Conclusion

The site appears to support low bat activity levels, with activity concentrated along the watercourse. The site is utilised by a **regionally** important assemblage of bat species. Greater horseshoe bats, lesser horseshoe bats, barbastelle, myotis and long-eared bats are all considered light-sensitive species. Temporary works have the potential to impact on these species through lighting and habitat loss. However, these species utilise the site in low numbers, with the site likely making up a small proportion of their total foraging and commuting range.

2.7 Summary

Bat activity along the proposed cable route is generally dominated by common pipistrelle and soprano pipistrelle bats. Pipistrelle species activity is heavily localised, with the majority of activity located around sheltered locations or valuable foraging areas. Usage of the landscape

by most other species of bat is limited, with insufficient passes per night recorded to form conclusions on their trends. Their populations are presumed to be limited within the area, and these bat species generally follow the same patterns as the more commonly identified species. The majority of species utilising the site were light tolerant species unlikely to be significantly impacted by temporary works.

Light sensitive species including greater horseshoe bat, lesser horseshoe bat and barbastelle as well as individuals of the genera *Myotis* and *Plecotus* were generally recorded at low levels. Evidence derived from the surveyed compartments did not suggest the presence of important commuting or foraging areas for light sensitive species. Data collected throughout the season indicates a dynamic usage of the landscape by bats. Temporary works could result in these species being disadvantaged, through disturbance to their commuting and foraging routes, to the extent that they no longer utilise the survey areas. This could impact a regionally important bat assemblage.

Appendices

- Appendix 1: 2023 Bat Survey Area 1 Map
- Appendix 2: 2023 Bat Survey Area 2 Maps
- Appendix 3: 2023 Bat Survey Area 3 Maps
- Appendix 4: 2023 Bat Survey Area 4 Maps
- Appendix 5: 2023 Bat Survey Area 5 Maps
- Appendix 6: 2023 Bat Survey Area 6 Maps

Appendix 1 – Bat Survey Area 1



Legend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser horseshoe
- Barbastelle
- Greater horseshoe

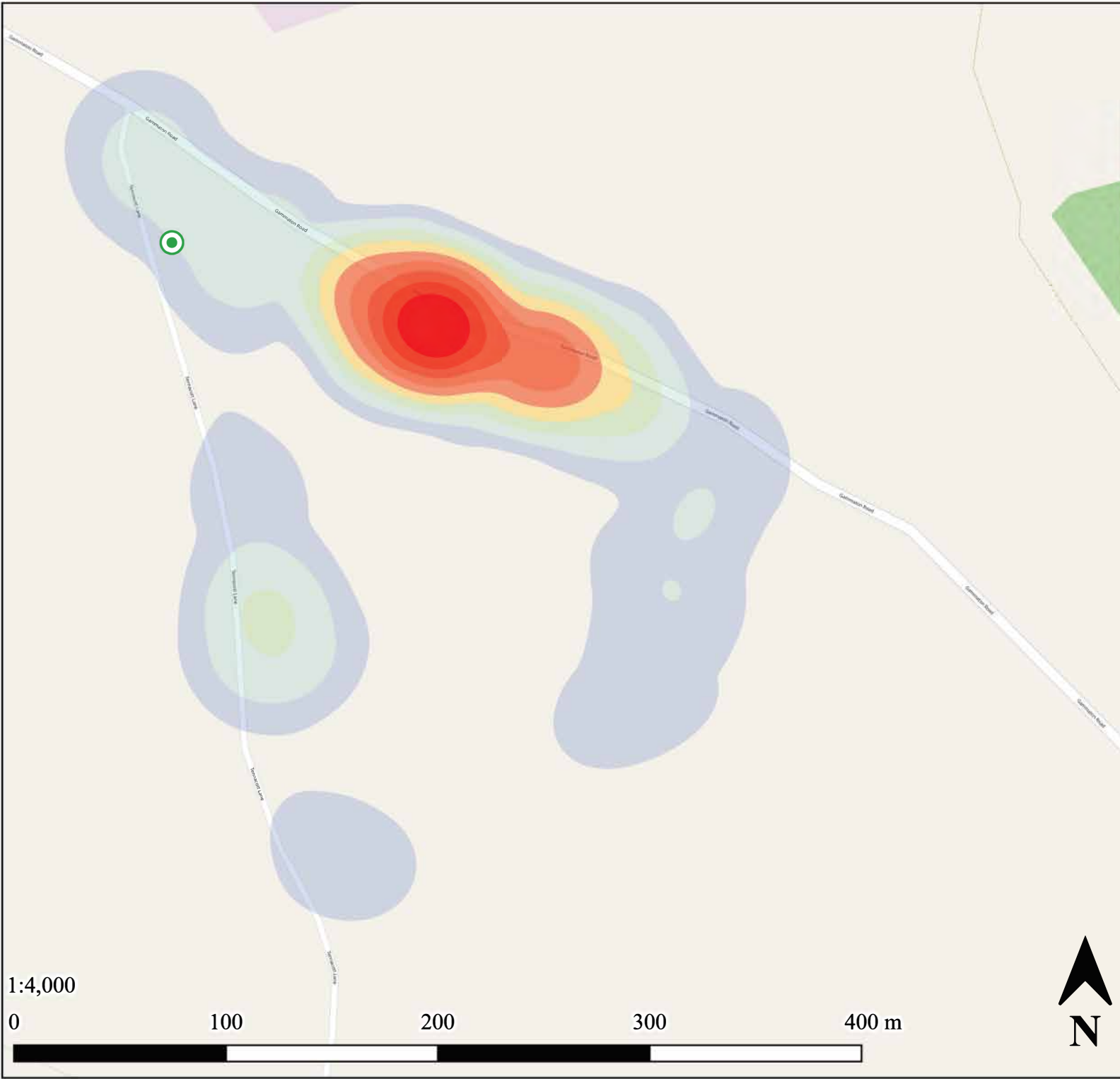
Title: 2023 Survey Area 1 Bat Activity Map
 Map No: 22/3987.01-01
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: Ap Checked by CI



Appendix 2 – Bat Survey Area 2



Legend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser Horseshoe
- Barbastelle
- Greater Horseshoe

Title: 2023 SurveyArea 2 Bat Activity Map
 Map No/ 22.3987.01-02
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP

Checked by CI

1:4,000



Legend

- Common pipistrelle
- Soprano pipistrelle
- Non pipistrelle bat species

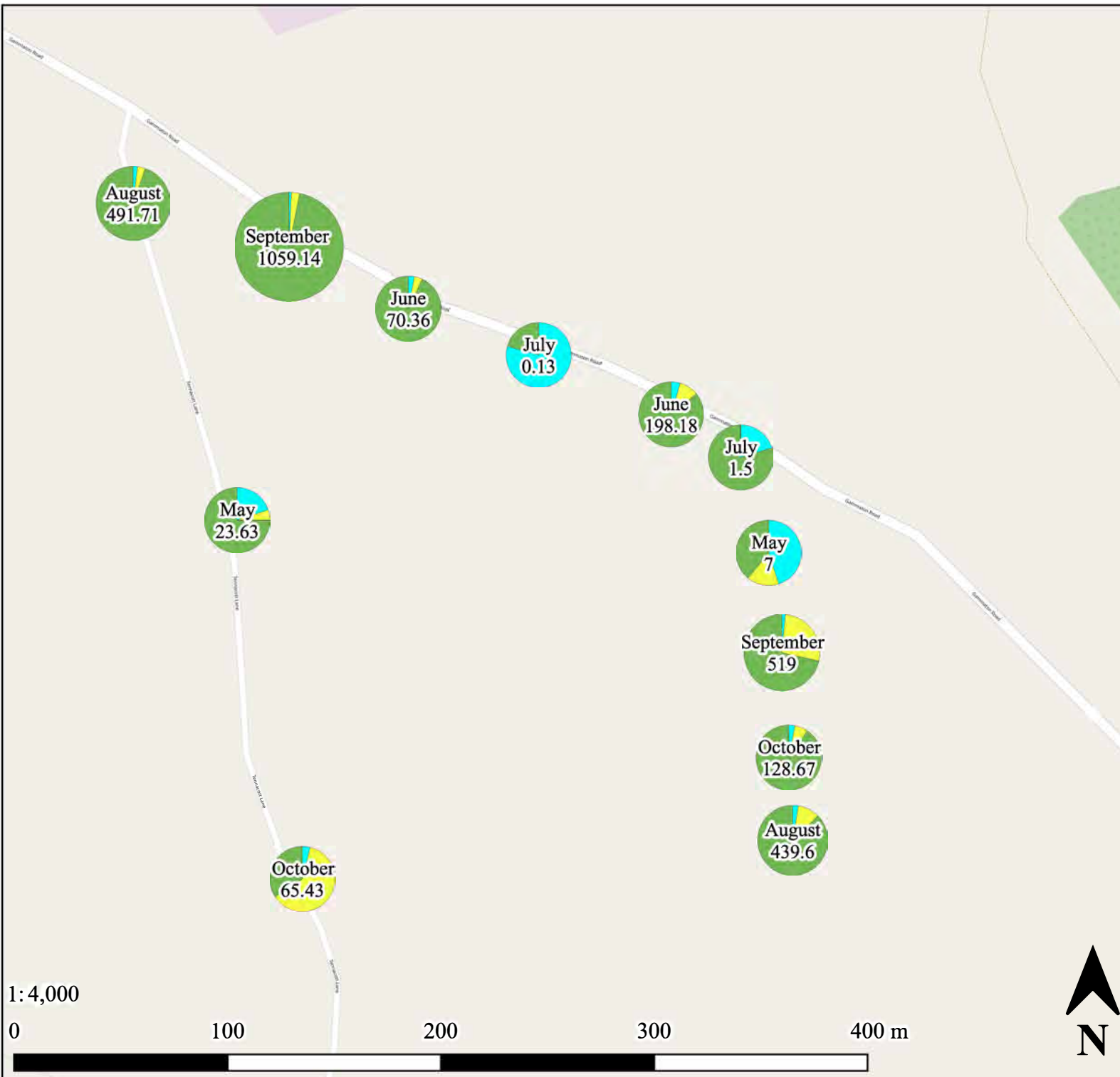
Bat passes displayed as total number of bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment. Due to the relatively low proportion of non pipistrelle bat calls. Results displaying levels of non pipistrelle bats in the absence of pipistrelle calls are presented in DWC Drawing No: 22/3987.01-04

Title: 2023 Survey Area 2 Remote Detector Results
 Map No: 22/3987.01-09
 Site: Xlinks Alverdiscott, Bideford
 Client: RPS

Date: November 2023

Drawn by: AP

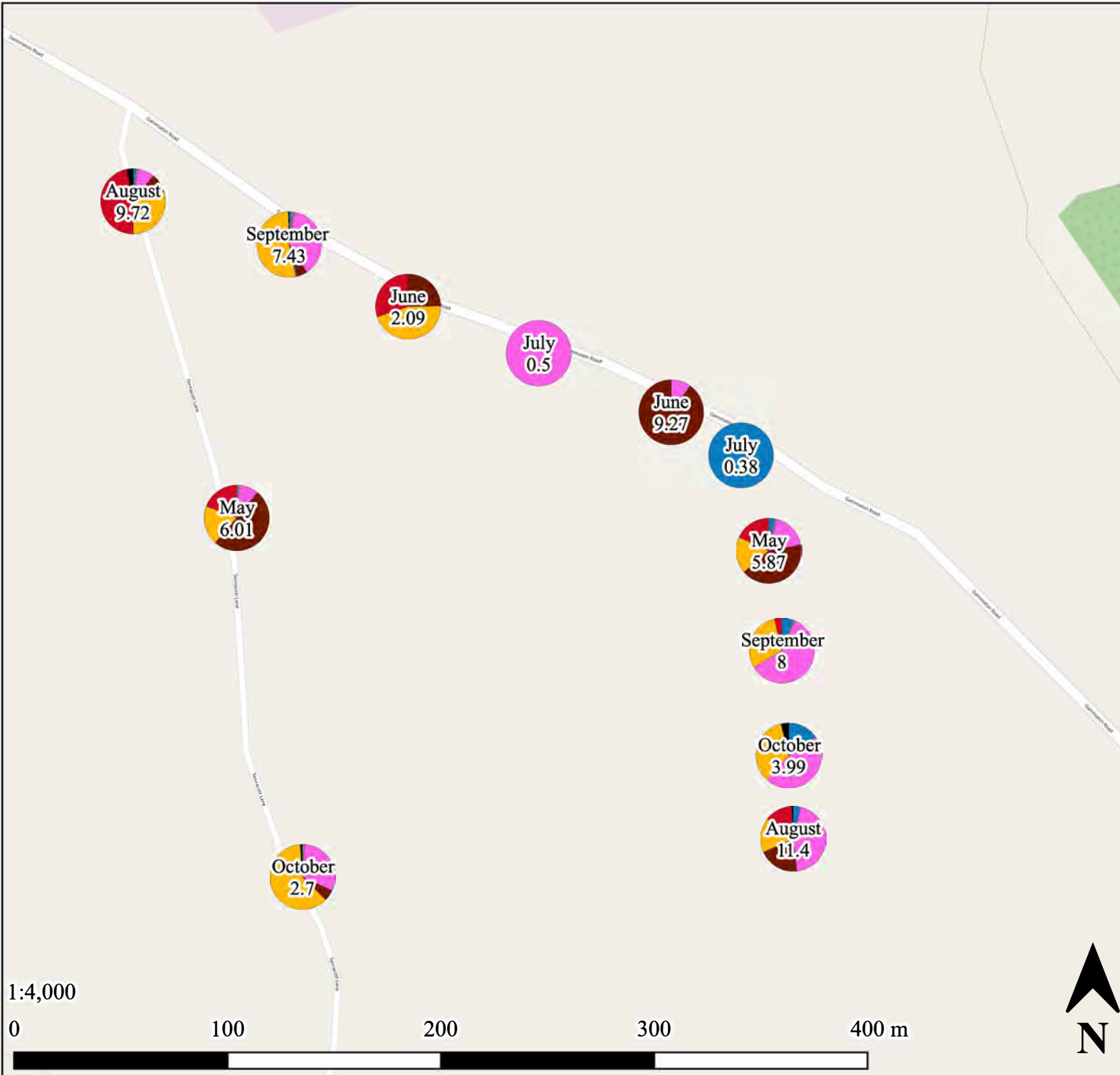
Checked by: CI



1: 4,000

0 100 200 300 400 m





Legend

- Barbastelle
- Serotine
- Myotis species
- Leisler's bat
- Noctule
- Plecotus species
- Greater horseshoe bat
- Lesser horseshoe bat

Bat passes displayed as total number of non-pipistrelle bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment.

Title: 2023 Survey Area 2 Remote Detector Results - Without Pipistrelles
 Map No: 22/3987.01-04
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP

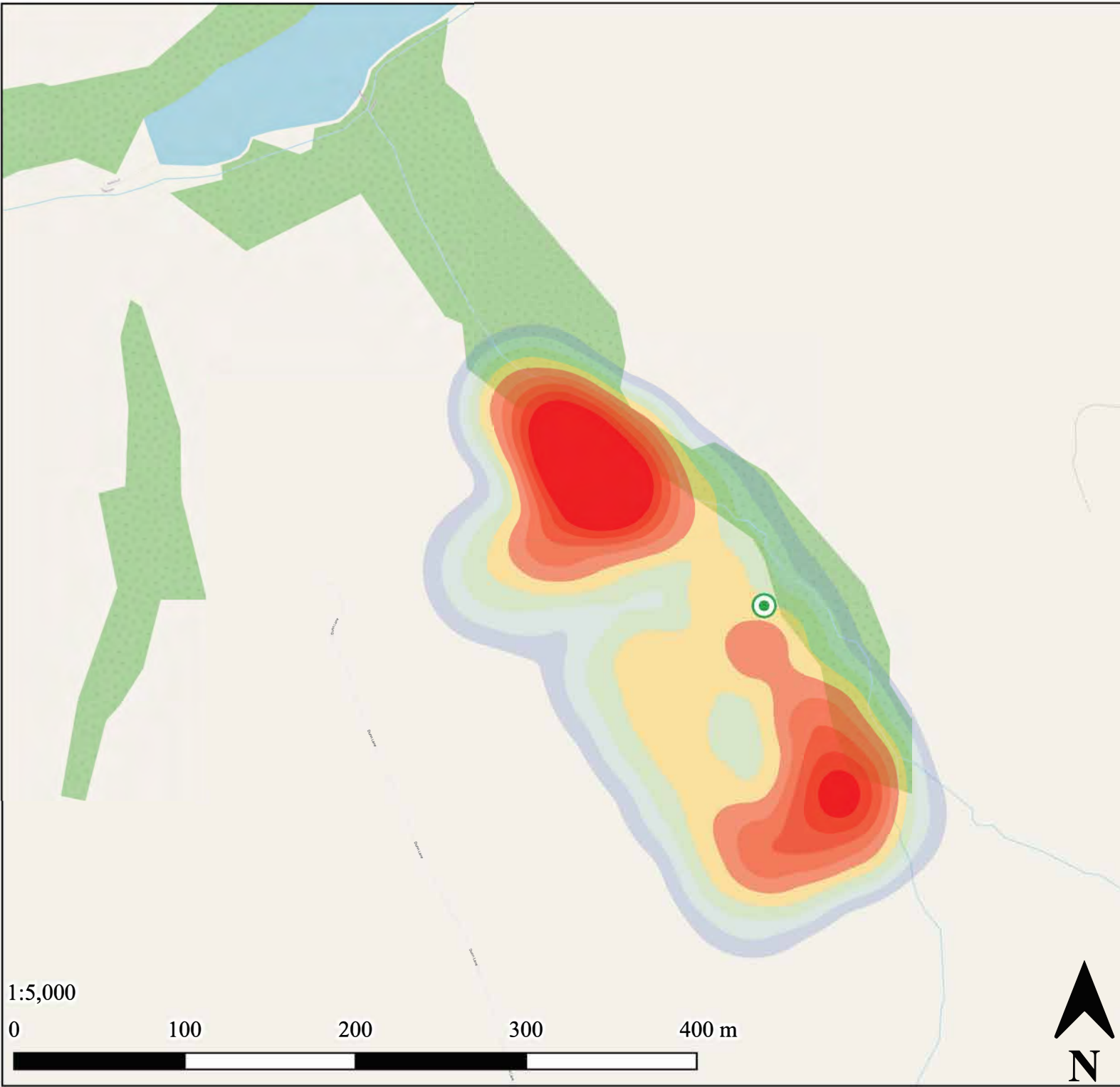
Checked by CI



1:4,000



Appendix 3 – Bat Survey Area 3



Legend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser Horseshoe
- Barbastelle
- Greater Horseshoe

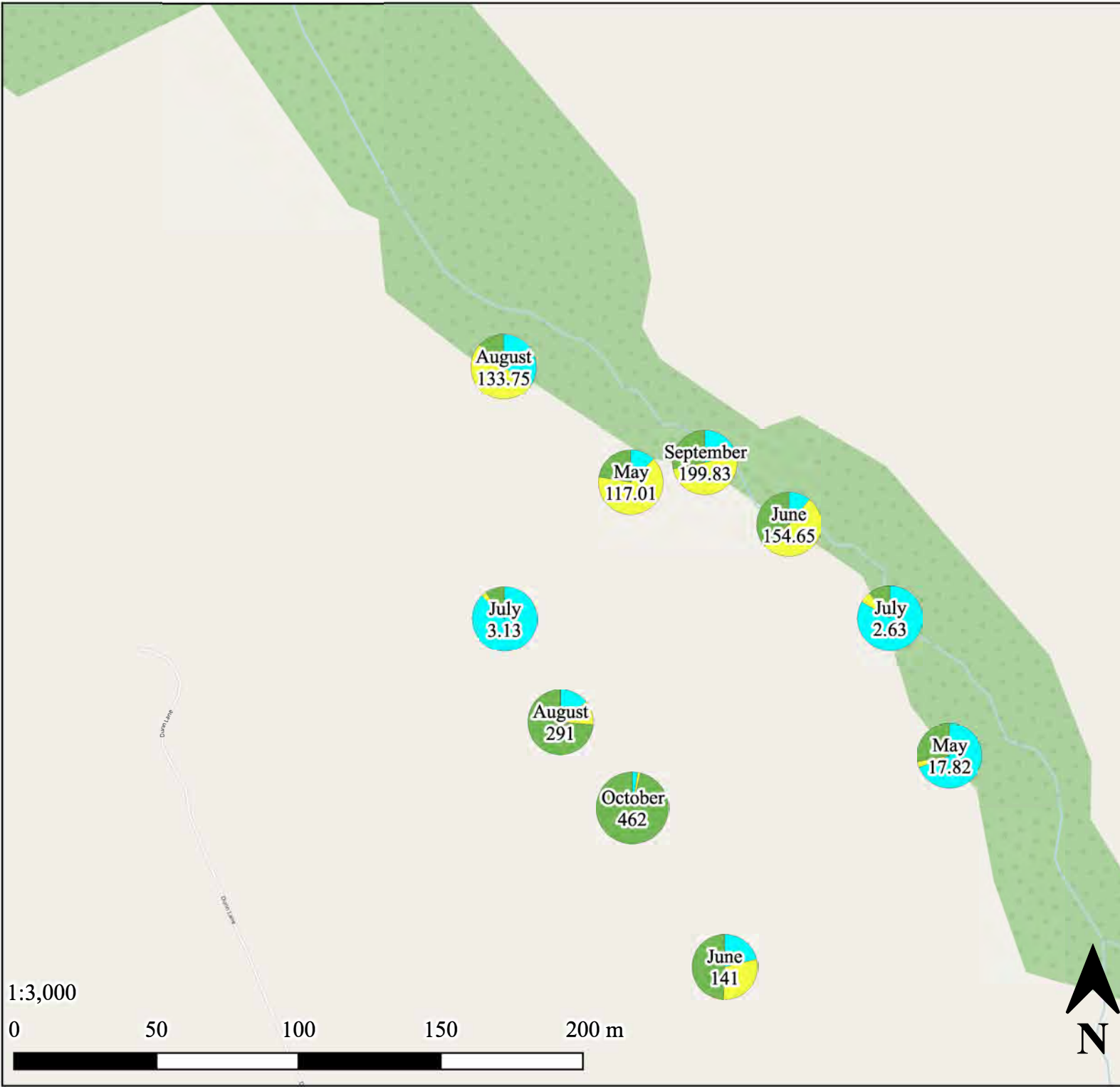
Title: 2023 Survey Area 3 Activity Results
 Map No: 22/3987.01-06
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP

Checked by: CI





Legend

- Common pipistrelle
- Soprano pipistrelle
- Non pipistrelle bats

Bat passes displayed as total number of bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment. Due to the relatively low proportion of non pipistrelle bat calls. Results displaying levels of non-pipistrelle bats in the absence of pipistrelle calls are presented in DWG Drawing No: 22/3987.01-07

Title: 2023 Survey Area 3 Remote detector results 1
 Map No: 22/3987.01-06
 Site: Xlinks Alverdiscott, Bideford
 Client: RPS

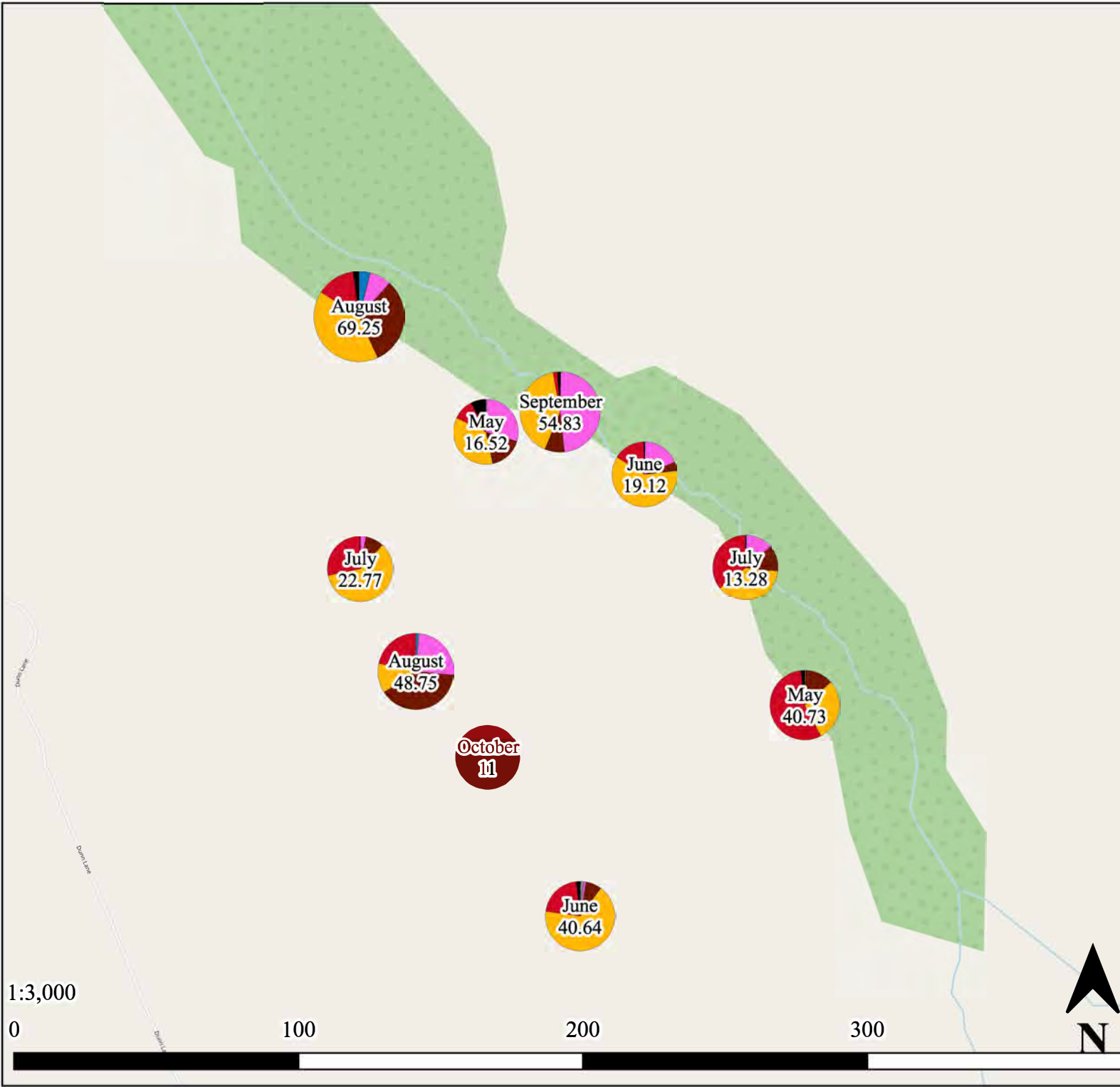
Date: November 2023

Drawn by: AP Checked by: CI



Legend

- Barbastelle
- Serotine
- Myotis species
- Liesler's bat
- Noctule
- Plecotus species
- Greater horseshoe bat
- Lesser horseshoe bat



Bat passes displayed as total number of non-pipistrelle bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment.

Title: 2023 Survey Area 3 Remote Detector Results Without pipistrelles

Map No: 22/3987.01-07

Site: Xlinks Alverdiscott, Bideford

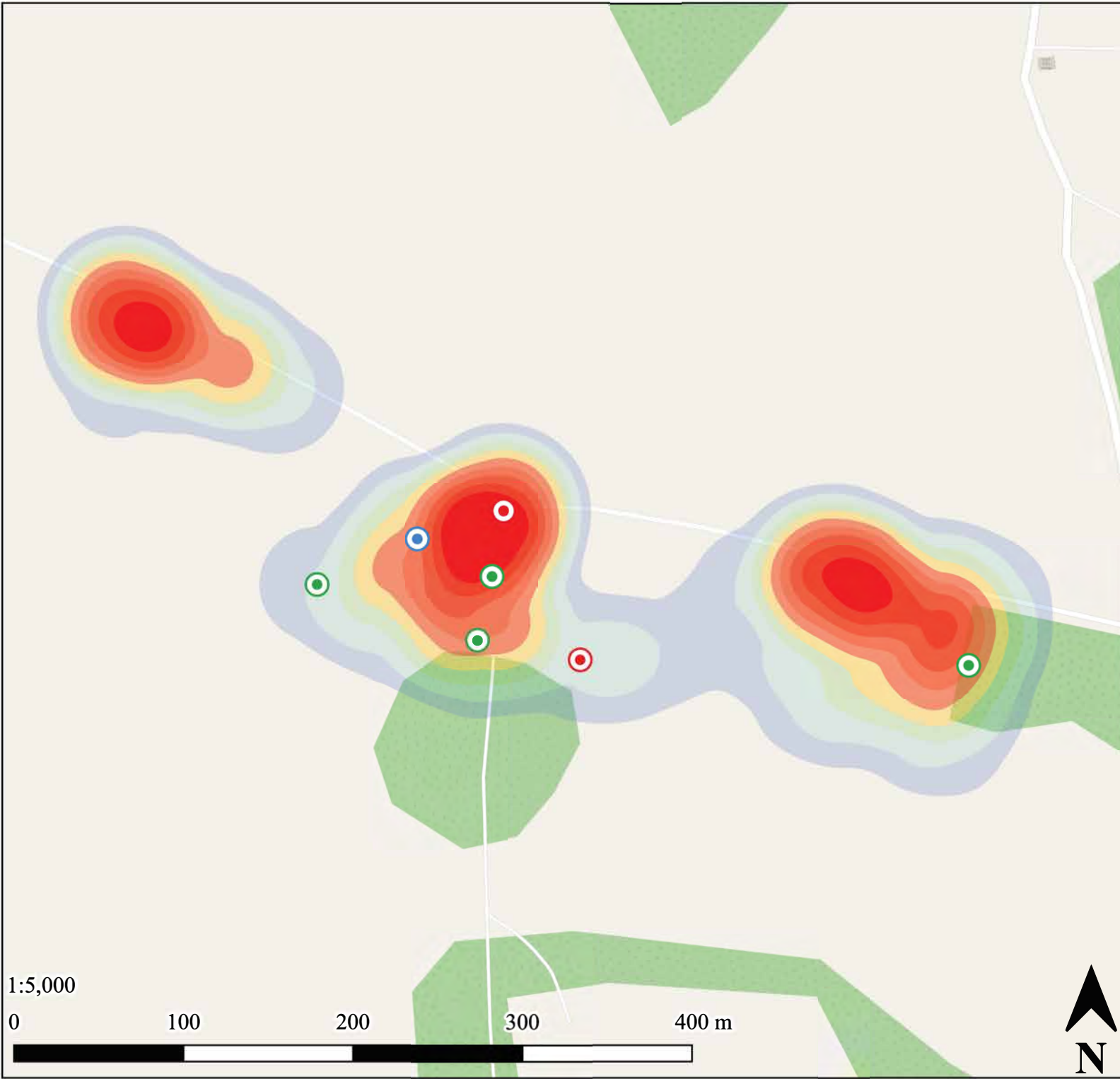
Client: RPS

Date: November 2023

Drawn by: AP

Checked by: CI

Appendix 4 – Bat Survey Area 4



Legend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser horseshoe
- Barbastelle
- Greater horseshoe

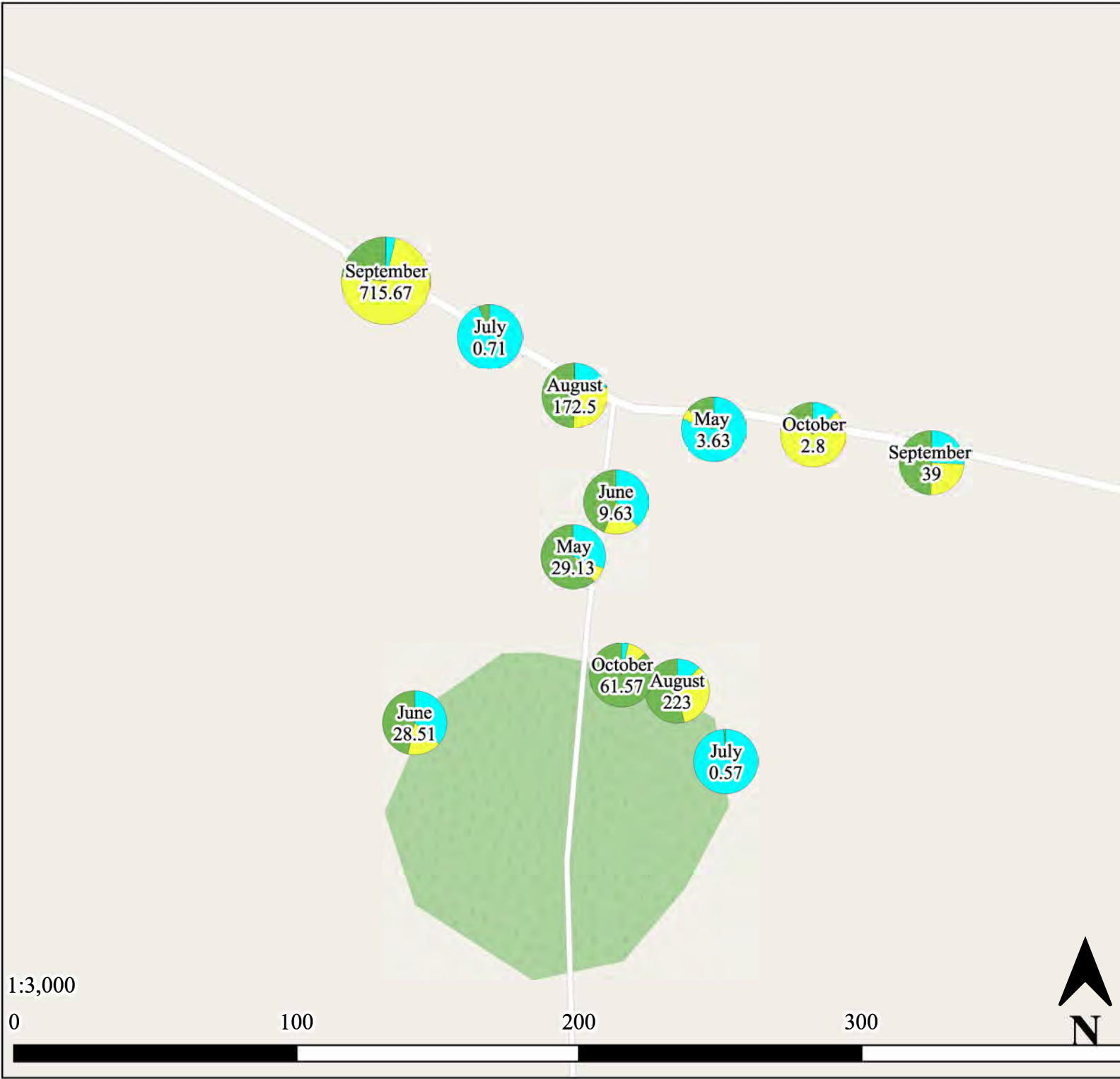
Title: 2023 Survey Area 4 Activity Results
 Map No: 22/3987.01-08
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP

Checked by CI





Legend

- Common pipistrelle
- Soprano pipistrelle
- Non pipistrelle bats

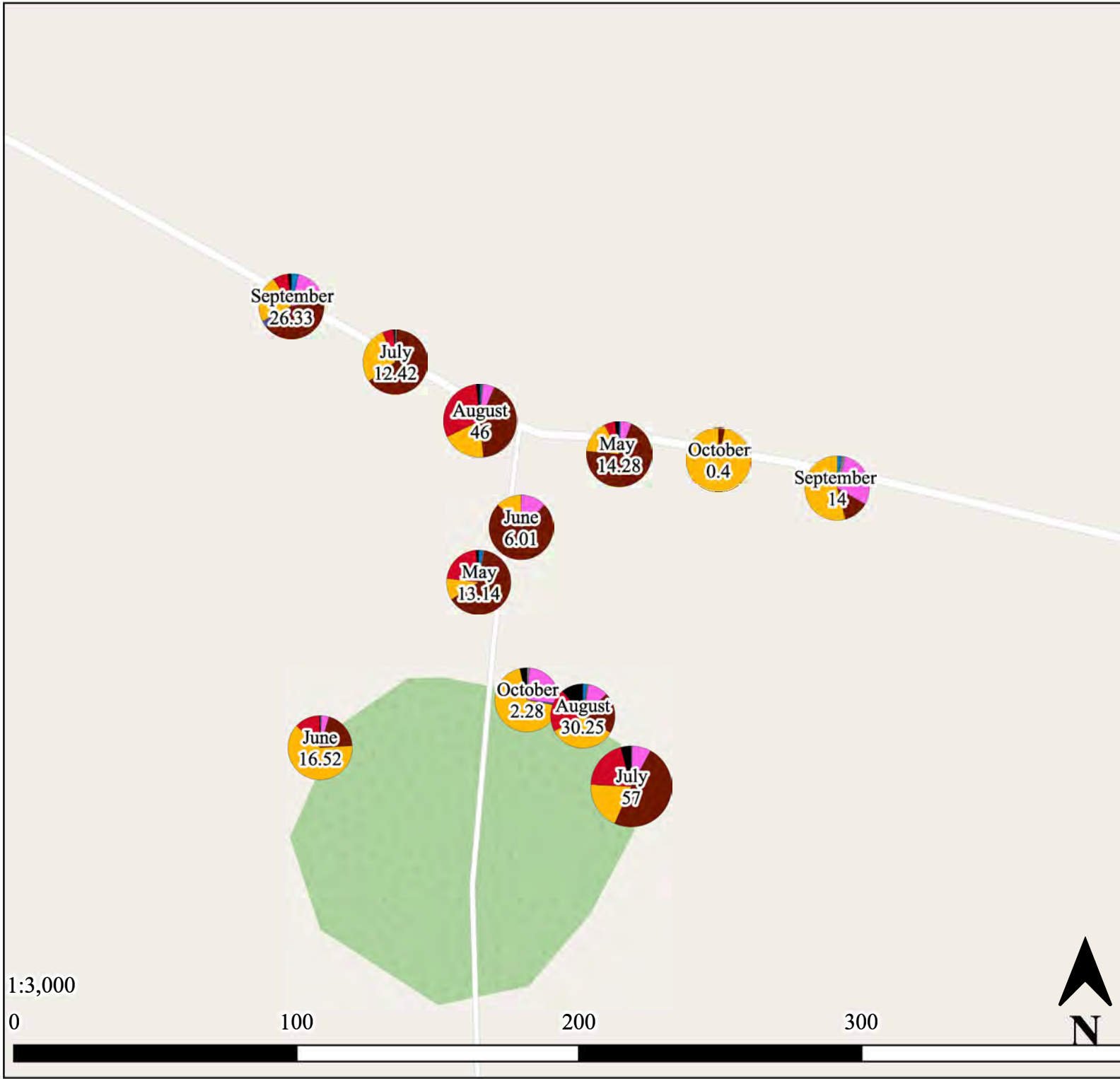
Bat passes displayed as total number of bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment. Due to the relatively low proportion of non pipistrelle bat calls. Results displaying proportion of non-pipistrelle bats in the absence of pipistrelles calls are presented in DWG Drawing No: 22/3987.01-10.

Title: 2023 Survey Area 4 Remote Detector Results
 Map No: 22/3987.01-09
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP Checked by: CI





Legend

- Barbastelle
- Serotine
- Myotis species
- Liesler's bat
- Noctule
- Plecotus bat
- Greater horseshoe bat
- Lesser horseshoe bat

Bat passes displayed as total number of non-pipistrelle bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment.

Title: 2023 Survey Area 4 Remote Detector Results Without Pipistrelle
 Map No: 22/3987.01-10
 Site: Xlinks Alverdiscott, Bideford
 Client RPS
 Date November 2023

Drawn by: AP Checked by: CI

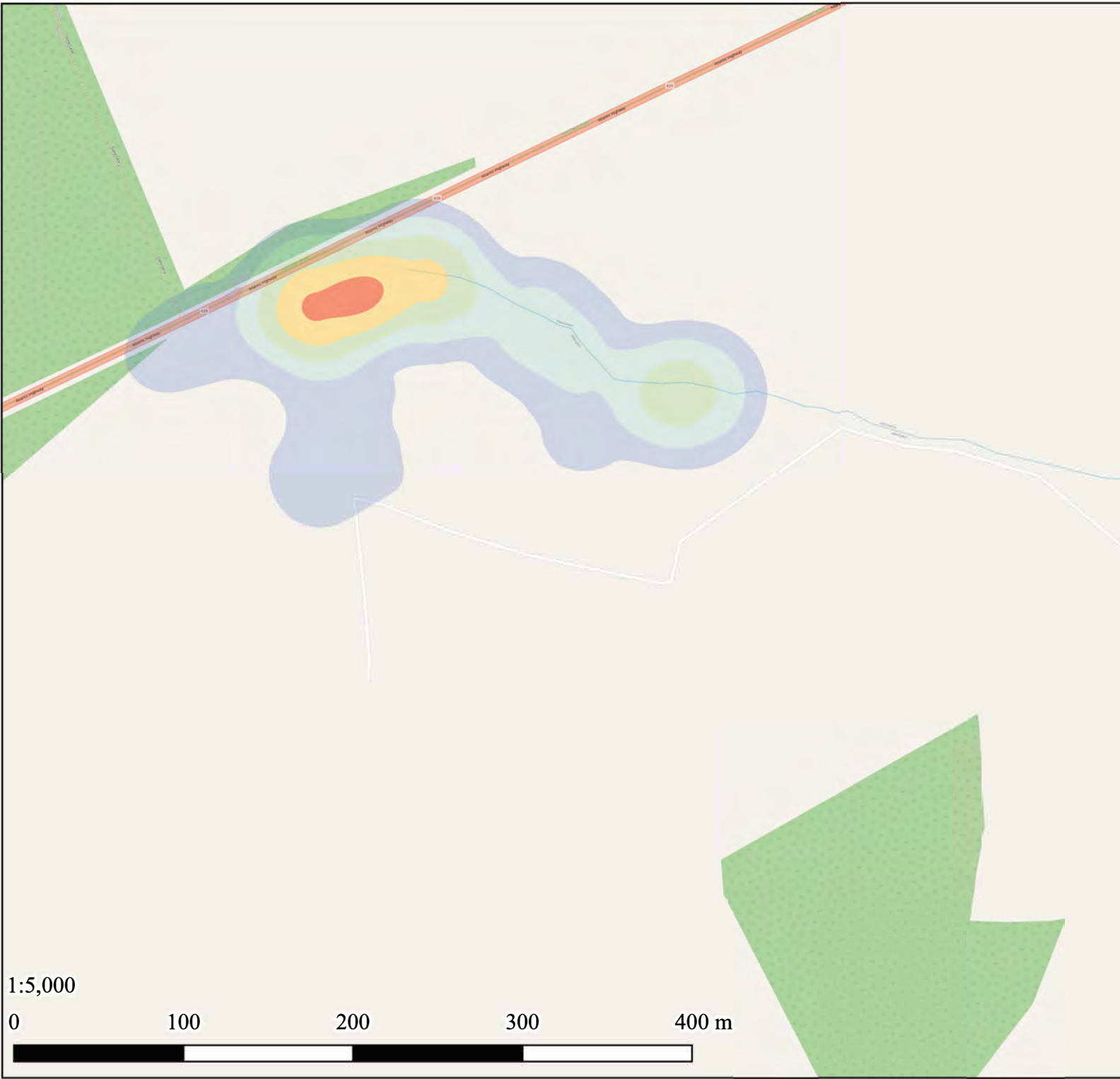


1:3,000

0 100 200 300



Appendix 5 – Bat Survey Area 5



Legend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser Horseshoe
- Barbastelle
- Greater Horseshoe

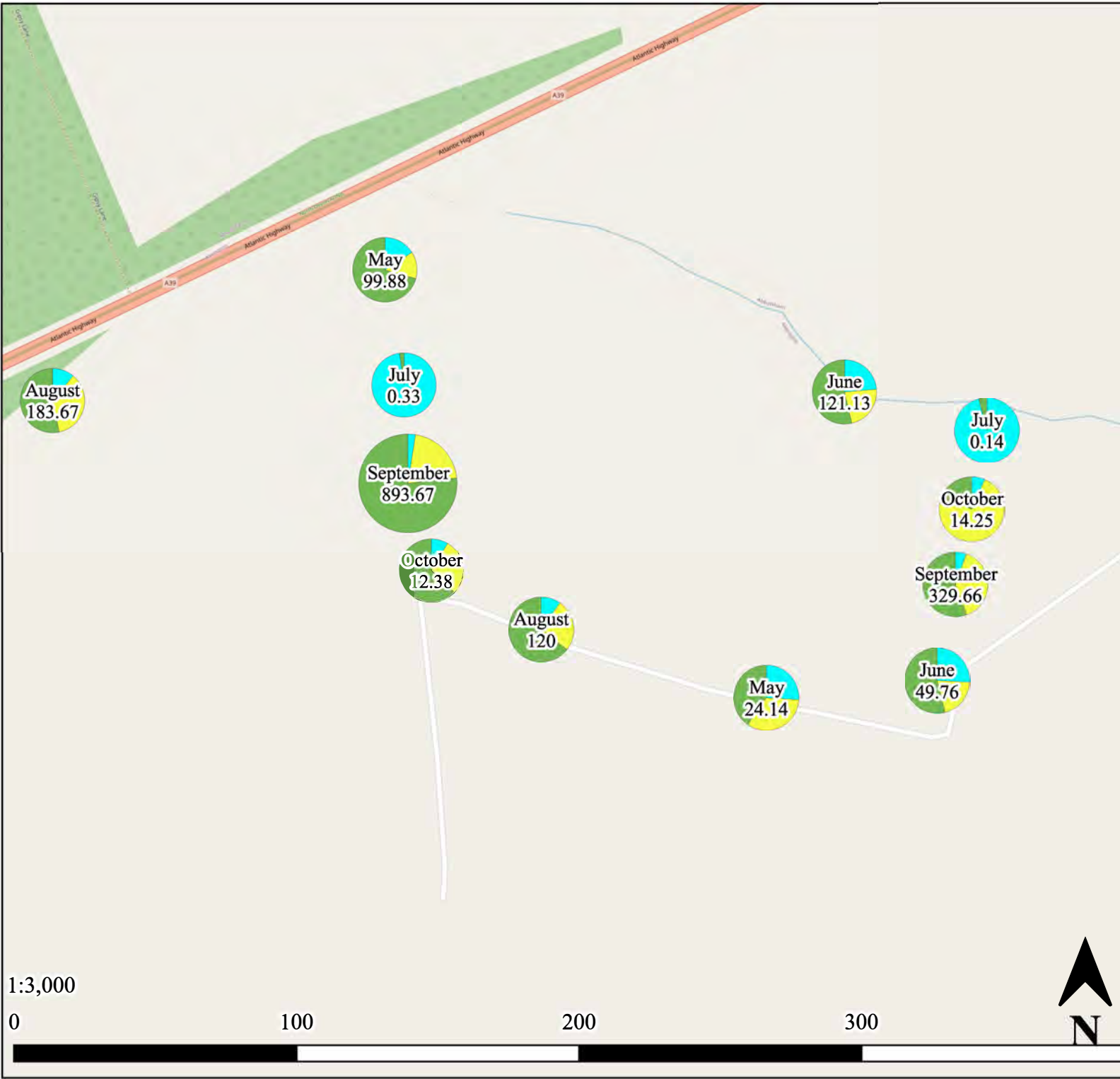
Title: 2023 Survey Area 5 Activity Results
 Map No: 22/3987.01-11
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP

Checked by CI





Legend

- Common pipistrelle
- Soprano pipistrelle
- Non pipistrelle bats

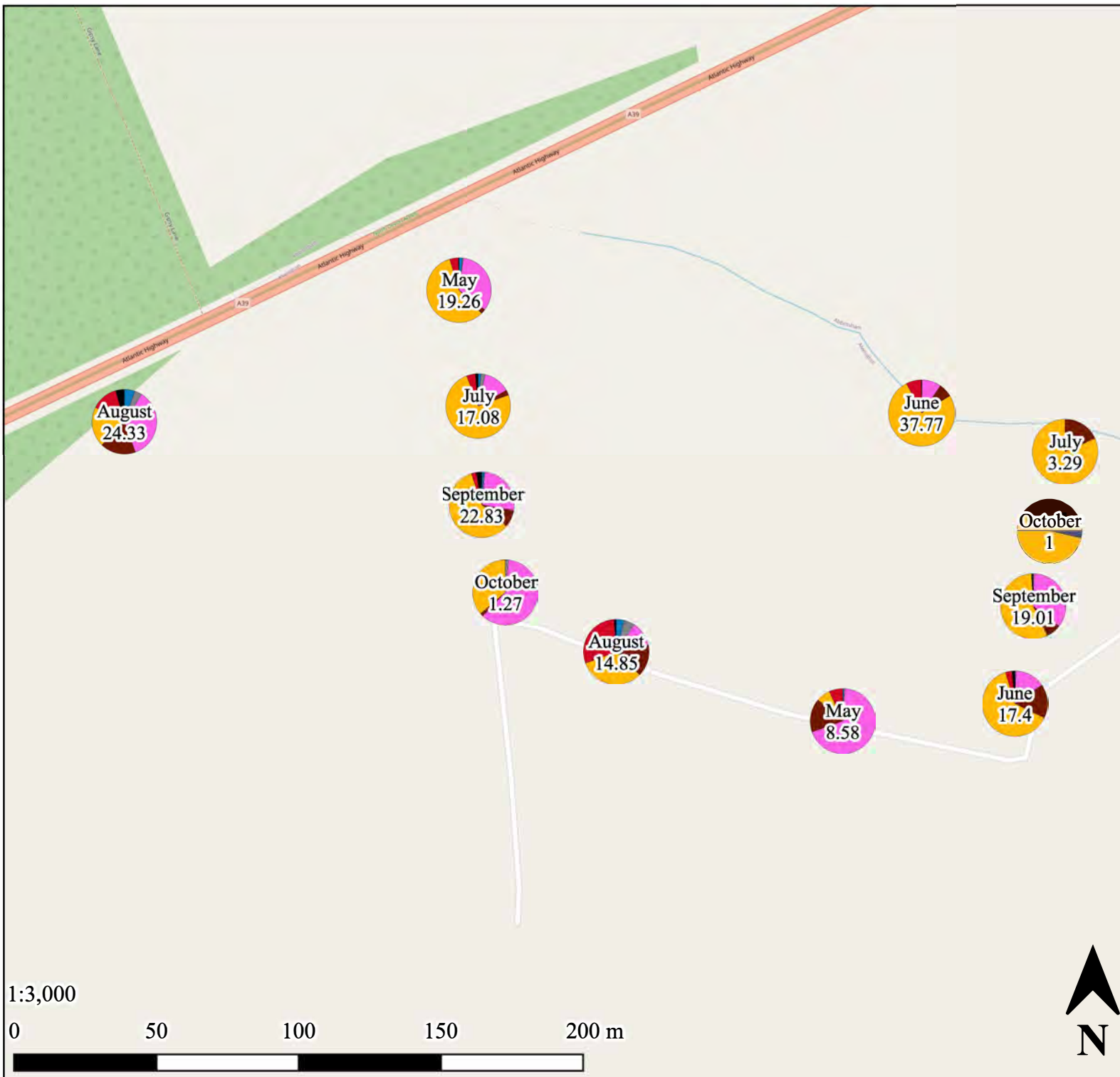
Bat passes displayed as total number of bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment. Due to the relatively low proportion of non pipistrelle bat calls. Results displaying proportion of non-pipistrelle bat calls in the absence of pipistrelle calls are presented in DWG Drawing No: 22/3987.01-19

Title: 2023 Survey Area 5 Remote Detector Results
 Map No: 22/3987.01-12
 Site: Xlinks Alverdiscott, Bideford
 Client RPS

Date November 2023

Drawn by: AP Checked by: CI





Legend

- Barbastelle
- Serotine
- Myotis species
- Liesler's bat
- Noctule
- Plecotus species
- Greater horseshoe bat
- Lesser horseshoe bat

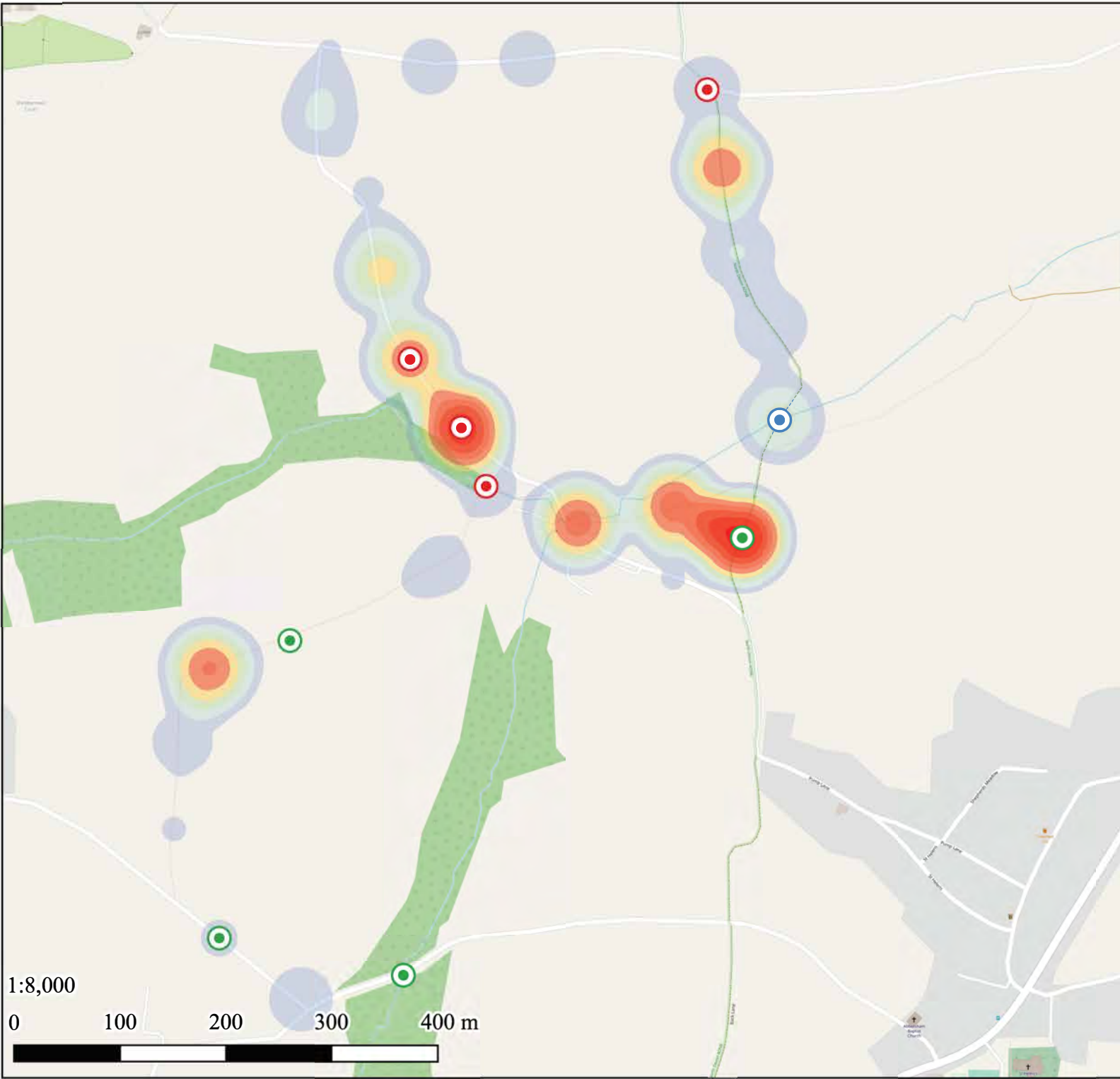
Bat passes displayed as total number of non-pipistrelle bat passes recorded per night during each detector deployment with the pie chart indicating the proportion of species utilising the area during the deployment.

Title: 2023 Survey Area 5 Remote Detector Results Without Pippistrelles
 Map No: 22/3987.01-13
 Site: Xlinks Alverdiscott, Bideford
 Client RPS
 Date November 2023

Drawn by: AP Checked by: CI



Appendix 6 – Bat Survey Area 6



Ledgend

- >1.80 passes per minute
- 1.60-1.79 passes per minute
- 1.40-1.59 passes per minute
- 1.20-1.39 passes per minute
- 1.00-1.19 passes per minute
- 0.8-0.99 passes per minute
- 0.60-0.79 passes per minute
- 0.4-0.59 passes per minute
- 0.2-0.39 passes per minute
- Lesser horseshoe
- Babastelle
- Greater horseshoe

Title: 2023 Survey Area 6 Activity Results
 Map No: 22/3987.01- 14
 Site: Xlinks Alverdiscott, Bideford Client
 RPS

Date November 2023

Drawn by: AP

Checked by: CI

