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BAT ACTIVITY SURVEY

At

East Lancs Paper Mill

Cricket Pitch Relocation Site
Church Street East
Radcliffe
M26 2PG

NGR: SD 79632 07371

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A handwritten signature in black ink, appearing to read 'Toby Hart', is positioned below the 'Approved by:' line.

Date:	11 th November 2024
UES reference:	UES03854/12



CONTENTS

EXECUTIVE SUMMARY	3
1 INTRODUCTION	5
1.1 Author, surveyors and qualifications	5
1.2 Survey objectives	5
1.3 Proposed development.....	5
1.4 Structure of the report.....	5
2 METHODOLOGY	6
2.1 General.....	6
2.2 Desk study.....	6
2.3 Transect surveys	6
2.4 Static detector monitoring surveys	7
2.5 Survey limitations	7
3 RESULTS.....	9
3.1 Habitat assessment.....	9
3.2 Transect surveys	9
3.3 Static detector monitoring surveys	10
4 EVALUATION AND RECOMMENDATIONS	11
4.1 Evaluation of results	11
4.2 Impacts.....	12
4.3 Mitigation and recommendations	12
5 CONCLUSION.....	13
6 REFERENCES	14
APPENDICES.....	15
Appendix 1 – Site plan.....	15
Appendix 2 – Aerial photographs.....	16
Appendix 3 – Transect survey data	17
Appendix 4 – Heat maps	18
Appendix 5 – Static detector monitoring survey data	19
Appendix 6 – Sonograms	20
Appendix 7 – External lighting guidance	21
Appendix 8 – Statutory and planning context.....	22



EXECUTIVE SUMMARY

United Environmental Services (UES) Ltd. has been commissioned by Morris Homes Northern Ltd to undertake a bat activity survey of the cricket pitch relocation site at East Lancs Paper Mill, Radcliffe. The bat activity survey has been undertaken to discharge condition 15 of planning permission 67597 issued by Bury Council:

Any application for reserved matters approval relating to the area for the proposed relocation of the cricket club facility (as defined in the informatives) shall include Bat Activity Surveys of this area. The survey shall include appropriate mitigation measures and the approved scheme shall be implemented in accordance with the programme approved as part of the Bat Activity Survey.

Reason. In order to ensure that no harm is caused to a Protected Species pursuant to policies EN6 – Conservation of the Natural Environment and EN6/3 – Features of Ecological Value of the Bury Unitary Development Plan and Section 11 of the National Planning Policy Framework.

The objective of the surveys was to assess the bat species and number of bats that are using the site and determine the importance of the site for foraging and commuting bats.

The cricket pitch relocation site is located within a largely urban area in Radcliffe, Greater Manchester. The land parcel has an area of approximately 5.5ha and comprises large areas of marshy grassland which is being encroached by grey willow *Salix cinerea* and osier *Salix viminalis* scrub. A small pond is present to the north of the site which is heavily choked by common reed *Phragmites australis* and a large waterbody is present past the northwestern site boundary within the main development site. A small block of woodland is present along the western site boundary.

A minimum of seven species of bat were recorded during the surveys: brown long-eared (BLE) *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, Nathusius' pipistrelle *Pipistrellus nathusii*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Leisler's *Nyctalus leisleri* and *Myotis* sp.

Moderate levels of bat activity were recorded during the surveys with the majority of bats recorded being common pipistrelles (approximately 96% of all transect recordings and 94% of all static detector recordings). All other species were recorded to a lesser extent. The seasonal usage of the site generally follows the anticipated trend. Bat activity increased between spring to summer as would be expected due to bats spending more time foraging following hibernation and the period in which pups are born. Moreover, increases in temperature throughout the survey season are likely to correlate with higher invertebrate activity throughout the nighttime. In general bat activity was concentrated to the west and south of site, along the edges of the woodland and willow scrub.

The proposals include the retention of a significant area of habitat in the northern and eastern sections of site, hereby referred to as the ecological compensation area. This ecological compensation area will be subject to enhancement measures and managed for the benefit of wildlife, including bats. The retention and enhancement of the marshy grassland, scrub, swamp and woodland habitats onsite, as well as native species-rich hedgerow planting along the site boundaries, will ensure that sufficient habitat is available onsite for foraging and commuting bats present locally. In addition, several bat boxes will be installed onsite to provide roosting opportunities for bats. Further details are provided in UES' landscape and ecology management plan (see report reference UES03854/15).



The implementation of a wildlife friendly lighting plan will reduce the potential construction and operational impacts of the development on bats to the lowest practicable level and will ensure that suitable foraging habitats and commuting corridors across the site will remain undisturbed and functional.

The report should be read in conjunction with appendices 1 to 8, which give visual representations of the survey results.

1 INTRODUCTION

1.1 Author, surveyors and qualifications

This report is compiled and written by Kathryn James BSc MRes MCIEEM, UES Senior Project Manager. Kathryn is licensed by Natural England to disturb, take and handle all species of bats under licence number 2015-10264-CLS-CLS (level 2). Other surveyors include:

- Bethan Beeston BA, UES Field Ecologist. Bethan is licensed by Natural England to survey all species of bats by observation using an artificial light under licence number 2024-12098-CL17-BAT (level 1).
- Robert Mooney MSc, UES Ecologist
- Bethany Dineley BSc, UES Graduate Ecologist
- Toby Leverett BSc MSc, UES Trainee Ecologist
- Harry Fox BSc MRes, UES Graduate Ecologist
- Bethany Dineley BSc, UES Graduate Ecologist

All surveyors have the knowledge, skills and experience identified within CIEEM's "Competencies for Species Survey: Bats" (2013), or were under the supervision of a surveyor with the required competencies.

1.2 Survey objectives

UES was commissioned to conduct site surveys which include the following activities:

- Conduct activity surveys to assess the quality of habitat for bats
- Assess the bat species and numbers that are using the site
- Assess the relative importance of areas and habitats within the site for bat activity
- Recommend appropriate mitigation and compensation, if applicable

1.3 Proposed development

The proposed development is for the creation of a cricket pitch, clubhouse and associated facilities.

1.4 Structure of the report

This report sets out the methodology, results, and recommendations in relation to a specific bat survey. Recommendations are in line with statutory legislation and planning policy objectives.

The report should be read in conjunction with appendices 1 to 8, which give visual representations of the survey results.



2 METHODOLOGY

2.1 General

All surveys were carried out to recognised guidelines, timings and weather conditions, with particular reference to Natural England and BCT publications (see references for further information).

The habitats on site and in the surrounding area were assessed during the activity survey and through studying aerial photographs, in order to gauge their suitability to support roosting, foraging and commuting bats.

2.2 Desk study

UES have not been instructed to undertake a record search at this stage.

2.3 Transect surveys

A transect route was determined during previous walkover surveys of the site. Care was taken to cover the entire site, especially any habitats considered to be of particular suitability for roosting, foraging or commuting bats. The transect route is provided at Appendix 1 – Site plan.

The site is considered to present moderate suitability habitat for bats, therefore one walkover survey was undertaken per season (spring April/May, summer June/July/August and autumn September/October) as per the Bat Conservation Trust (BCT) survey guidelines.

During each survey visit, two surveyors walked slowly along the transect route, equipped with Elekon Batlogger M bat detectors and recorders. This device records bat echolocation calls across the full spectrum, with a sensitivity range of 10 – 150 kHz. The integrated heterodyne live monitoring also allows the observer to hear the echolocation calls in real time, with automatic tuning. The recordings are individually time/date, GPS and temperature stamped, and are of high enough quality to produce time expansion quality sonograms. Any observations of bats were recorded, including time, species, location, number of bats, flight direction, flight height and behaviour, where possible.

The starting point and direction of the transect route was varied throughout the surveys, to reduce survey bias. Surveyors were positioned on potential flight lines and remained stationary for between thirty minutes to an hour after sunset, unless regular streams of bat activity were noted in which case surveyors would use back-tracking methods to move towards the flight direction and possible roosts. Following this stationary period, surveyors would follow the pre-determined transect route whilst making observations about bat activity. Surveyors were encouraged to respond dynamically to their observations and to make detours towards areas of high activity.

The survey dates, timings and weather conditions are provided in the table below.

Table 1 – Survey dates, timings and weather conditions

SEASON	DATE	SUNSET	SURVEY TIMINGS	TEMP.	WIND (0-12)	RAIN	CLOUD COVER
Spring	22/04/24	20:23	20:08 – 22:23	10°C	1	Rained before survey.	90%
Summer	24/07/24	21:19	21:04 – 23:19	18°C	2	None	90%
Autumn	03/10/24	18:40	18:25 – 20:40	12°C	1	Dry	70%

2.4 Static detector monitoring surveys

In addition to the transect surveys, static detectors were deployed across the site, fixed to mature trees in discrete locations that were anticipated to record bat activity. Static detectors were deployed in two locations across the site (see Appendix 1).

The static detectors were set to record for a minimum of five consecutive nights per month in their respective locations, from April to October inclusive, as per the BCT survey guidelines. Following each recording cycle, each detector's batteries were changed, the data was retrieved, and detectors re-set to record. The following static detectors were used during the survey:

- Anabat Swift static bat detector. This device uses frequency division technology with a frequency range of 5 – 150kHz and records echolocation calls in zero crossing format. It has an integrated GPS receiver which automatically sets the internal clock, calculates sunset and sunrise times and records the location. All registrations are automatically recorded onto an SD card and time, date and temperature stamped.
- Anabat Express static bat detector. This device uses frequency division technology with a frequency range of 5 – 150kHz and records echolocation calls in zero crossing format. It has an integrated GPS receiver which automatically sets the internal clock, calculates sunset and sunrise times and records the location. All registrations are automatically recorded onto an SD card and time, date and temperature stamped.

All survey data was analysed using the British Trust for Ornithology (BTO) acoustic pipeline software and a random sample of the full dataset was subject to quality assurance (manual sound analysis) to ensure bat calls are being correctly classified.

2.5 Survey limitations

One of the static detectors deployed in June and July failed to record bat activity due to technical / file corruption issues, this led to data only being collected from the southern static during these months. In addition, one of the static detectors deployed in August failed to record bat activity due to technical / file corruption issues, this led to data only being collected from the northern static during this month. However, previously both statics had recorded similar species and quantities of calls, and so it can be surmised that similar data would have been recorded by both detectors over this period. Therefore, this is not considered to be a significant limitation. Additionally, due to the same equipment malfunction the same five consecutive days could not be selected from each month for analysis. However, with the exception of September



and October, the five selected days were always more than three weeks apart; therefore, this is not considered to be a significant survey limitation.



3 RESULTS

3.1 Habitat assessment

The cricket pitch relocation site at East Lancs Paper Mill is located within a largely urban area in Radcliffe, Greater Manchester. The land parcel has an area of approximately 5.5ha and comprises large areas of marshy grassland which is being encroached by willow scrub. A small pond is present to the north of the site which is heavily choked by common reed and a large waterbody is present past the northwestern site boundary within the main development site. A small block of woodland is present along the western site boundary.

There are no buildings on site which could be used by roosting bats. However, WYG identified (as part of their 2018 PEA) a single tree onsite (a willow within the woodland along the west site boundary) as having moderate potential to support roosting bats, due to the presence of an old woodpecker hole. The remainder of the trees onsite were assessed as having negligible potential to support roosting bats.

The site sits within a pocket of green space around The River Irwell (400m southeast of the site boundary) with areas of marshy grassland, broadleaved woodland and dense scrub present in the immediate surrounding area. The wider landscape is comprised primarily of residential, commercial and industrial buildings. Areas of higher quality habitat are present further afield including mixed farmland, which is well connected by mature hedgerows and tree lines. In addition, several large parks and green spaces are present throughout the wider landscape comprising broadleaved woodland, grassland, large lakes, rivers and ponds.

In summary, the cricket pitch relocation site at East Lancs Paper Mill provides moderate quality habitat for foraging and commuting bats; the presence of woodland, marshy grassland, scrub and swamp habitats onsite will likely support a good source of invertebrates on which bats may feed. Furthermore, the site is connected to high quality habitats offsite, in the form of wetland and woodland habitats along the River Irwell and River Roch, with no barriers to movement for commuting bats.

3.2 Transect surveys

A minimum of three species of bat were recorded during the transect surveys, including common pipistrelle, soprano pipistrelle and *Myotis* sp.

Moderate levels of bat activity were recorded during the surveys with the majority of bats recorded being common pipistrelles (approximately 96% of all transect recordings). Soprano pipistrelles accounted for 3% of all transect recordings and *Myotis* sp. accounted for 1% of all transect recordings.

Across all species, significantly more activity was recorded in April (approximately 46% of all transect recordings) than July (approximately 28% of all transect recordings) and October (approximately 25% of all transect recordings). In general bat activity was concentrated to the west and south of site, along the edges of the woodland and willow scrub.

The transect route has been mapped in Appendix 1 – Site plan. Further details of the transect survey results can be found in Appendix 3 – Transect survey data and Appendix 4 – Heat maps.



3.3 Static detector monitoring surveys

A minimum of seven species of bat were recorded during the static detector monitoring surveys, including BLE, common pipistrelle, Nathusius' pipistrelle, soprano pipistrelle, noctule, Leisler's and *Myotis* sp.

Moderate levels of bat activity were recorded by the static detectors with common pipistrelle being by far the most recorded species at 94%. *Myotis* sp. accounted for 4% of all static recordings, with other species recorded to a lesser extent.

Across all species, significantly more activity was recorded during the spring (approximately 492 recordings / night) than summer (approximately 253 recordings / night) and autumn (approximately 36 recordings / night).

Static detectors 1 and 2 did not differ greatly in the quantity of recorded data, gathering approximately 54% and 46% of all recordings respectively. This is unsurprising as both are located in good foraging and commuting habitats, within areas of woodland bordering marshy grassland, a small pond (Static 1) and willow scrub (Static 2).

Further details of the static detector survey results can be found in Appendix 5 – Static detector monitoring survey data.



4 EVALUATION AND RECOMMENDATIONS

4.1 Evaluation of results

Across the transect and static detector surveys, a minimum of seven species of bat were recorded, including BLE, common pipistrelle, Nathusius' pipistrelle, soprano pipistrelle, noctule, Leisler's and *Myotis* sp.

Overall, moderate levels of bat activity were recorded during the surveys, with bats exhibiting foraging and commuting behaviours. In general, bat activity was concentrated to the west and south of site, along the edges of the woodland and willow scrub. This is unsurprising as the ecotone between these habitats and the marshy grassland is likely to support a higher concentration of invertebrates than the surrounding area.

Common pipistrelles accounted for 96% of the transect survey data and 94% of the static detector data. Common pipistrelles were frequently recorded by both static detectors. Similar numbers of recordings were collected from Static 1 and 2 with common pipistrelles recorded utilising the areas of woodland and scrub and the borders of the wet grassland. Common pipistrelles accounted for the majority of data, this is likely because they are a common and widespread species and fair better in the urban environments that surround the site i.e. more tolerant of light pollution.

Soprano pipistrelles accounted for 3% of the transect survey data and 0.6% of the static detector data. Soprano pipistrelle activity was higher during the transect surveys, which may be due to the transect route capturing areas favoured by soprano pipistrelles, or it may simply be as a result of the smaller sample size when compared to the larger dataset collected by the static detectors. Similar levels of activity were recorded between Statics 1 and 2. As with common pipistrelles, it is likely they utilise the higher quality habitats onsite, such as woodland, scrub and grassland borders, for foraging and commuting. Although, given soprano pipistrelles typically prefer to forage in wetland habitats, the large difference in activity between soprano and common pipistrelle is perhaps surprising.

Myotis sp. accounted for 1% of the transect survey data and 4% of the static detector data. *Myotis* sp. activity was uniform across the site for both statics and activity surveys, with slightly higher recordings in the northwest corner of site during activity surveys. A number of bat passes were recorded near a large waterbody just beyond the northwest site boundary, which are most likely Daubenton's *Myotis daubentonii*.

Nathusius' pipistrelle, Leisler's and noctule accounted for 0.8%, 0.01% and 0.07% of the static detector data respectively. These species were not recorded during the transect surveys. Given the low levels of bat activity recorded, it is not possible to draw any meaningful conclusions from the data; however, it is deemed unlikely they are utilising the site for anything more than sporadic foraging or commuting.

BLE were not recorded during the transect surveys and accounted for 0.18% of the static detector data. The low number of BLE recordings in comparison to other species may be due to their tendency to avoid echolocating, their tendency to have quieter echolocation calls or may simply be due to a lower number of BLE using the survey area.

The seasonal usage of the site based on the static data generally follows the anticipated trend. Bat activity increased between spring to summer as would be expected due to bats spending more time foraging following hibernation and the period in which pups are born. Moreover, increases in temperature throughout the survey season are likely to correlate with higher



invertebrate activity throughout the nighttime. Transect data were typically dominated by common pipistrelle activity, but with bats generally not recorded until at least forty minutes after sunset. Activity was highest to the west and south of site and most of the observed activity constituted bats commuting past surveyors moving east to west and vice versa.

4.2 Impacts

The proposed development will result in the loss of an area of marshy grassland and scrub habitat, which is considered to pose a minor negative impact to foraging and commuting bats in the nearby area. However, the landscaping proposals have been designed to retain and enhance a mosaic of marshy grassland, scrub, woodland and swamp habitats within a designated ecological compensation area, which will continue to provide suitable foraging habitats for bats onsite, as well as maintaining links to offsite commuting corridors, such as the River Irwell and River Roch.

The largest risk of impacting bats is likely to result from inappropriate use of external lighting, which may sever commuting corridors used by light-averse species, such as brown long-eared and *Myotis* sp.

4.3 Mitigation and recommendations

The proposals include the retention of a significant area of habitat in the northern and eastern sections of site, referred to as the ecological compensation area. This ecological compensation area will be subject to enhancement measures and managed for the benefit of wildlife, including bats. The retention and enhancement of the marshy grassland, scrub, swamp and woodland habitats onsite, as well as native species-rich hedgerow planting along the site boundaries, will ensure that sufficient habitat is available onsite for foraging and commuting bats present locally. In addition, several bat boxes will be installed onsite to provide additional roosting opportunities for bats. Further details are provided in UES' landscape and ecology management plan (see report reference UES03854/15).

External lighting guidance has been provided (see Appendix 7 – External lighting guidance) which should be used to create a bat friendly lighting plan to ensure that light spillage is minimised where possible. The scheme should be designed to avoid overspill onto the ecological corridors at the site boundaries, including the ecological compensation area, woodland, hedgerow planting, bat boxes and offsite habitats.



5 CONCLUSION

In summary, the cricket pitch relocation site at East Lancs Paper Mill provides moderate quality habitat for foraging and commuting bats; the presence of woodland, marshy grassland, scrub and swamp habitats onsite will likely support a good source of invertebrates on which bats may feed. Furthermore, the site is connected to high quality habitats offsite, in the form of wetland and woodland habitats along the River Irwell and River Roch, with no barriers to movement for commuting bats.

Across the transect and static detector surveys, a minimum of seven species of bat were recorded, including BLE, common pipistrelle, Nathusius' pipistrelle, soprano pipistrelle, noctule, Leisler's and *Myotis* sp. Overall, moderate levels of bat activity were recorded during the surveys, with bats exhibiting foraging and commuting behaviours. In general, bat activity was concentrated to the west and south of site, along the edges of the woodland and willow scrub.

The proposed development will result in the loss of an area of marshy grassland and scrub habitat, which is considered to pose a minor negative impact to foraging and commuting bats in the nearby area. However, the landscaping proposals have been designed to retain and enhance a mosaic of marshy grassland, scrub, woodland and swamp habitats within a designated ecological compensation area, which will continue to provide suitable foraging habitats for bats onsite, as well as maintaining links to offsite commuting corridors, such as the River Irwell and River Roch. In addition, several bat boxes will be installed onsite to provide roosting opportunities for bats.

The implementation of a wildlife friendly lighting plan will reduce the potential construction and operational impacts of the development on bats to the lowest practicable level and will ensure that suitable foraging habitats and commuting corridors across the site will remain undisturbed and functional.



6 REFERENCES

Chartered Institute of Ecology and Environmental Management (2013). *Competencies for Species Survey: Bats*.

Department for Communities and Local Government (2023). *National Planning Policy Framework*.

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

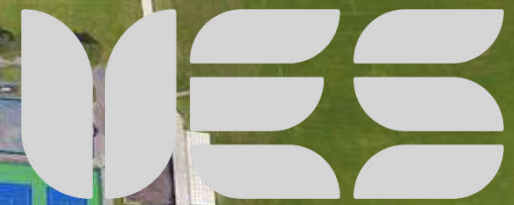
Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature.

Mitchell-Jones, A.J. & McLeish, A.P. (2004). *The Bat Workers Manual*. (3rd ed.) JNCC



APPENDICES

Appendix 1 – Site plan



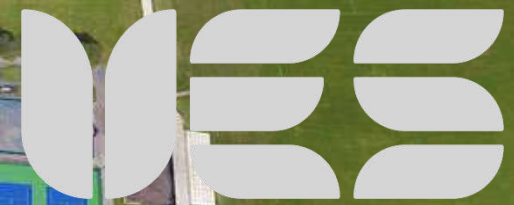
East Lancs Paper Mill, Radcliffe

Site plan

- Development boundary
- Transect route
- ★ Stopping points
- ★ Static detector 1
- ★ Static detector 2



Appendix 2 – Aerial photographs



East Lancs Paper Mill, Radcliffe

Close aerial photograph

— Development boundary



East Lancs Paper Mill, Radcliffe

Wide aerial photograph





Appendix 3 – Transect survey data

Total number of recordings by survey			
Species	Spring Survey 22/04/2024	Summer Survey 24/07/2024	Autumn Survey 03/10/2024
Myotis sp.	9	1	0
Pipistrellus pipistrellus	457	280	265
Pipistrellus pygmaeus	19	17	0
All Species	485	298	265



Appendix 4 – Heat maps



East Lancs Paper Mill, Radcliffe

Bat activity heatmap

Survey date: 22/04/2024



200 feet

50 m



East Lancs Paper Mill, Radcliffe

Bat activity heatmap

Survey date: 24/07/2024



200 feet

50 m



East Lancs Paper Mill, Radcliffe

Bat activity heatmap

Survey date: 03/10/2024





Appendix 5 – Static detector monitoring survey data

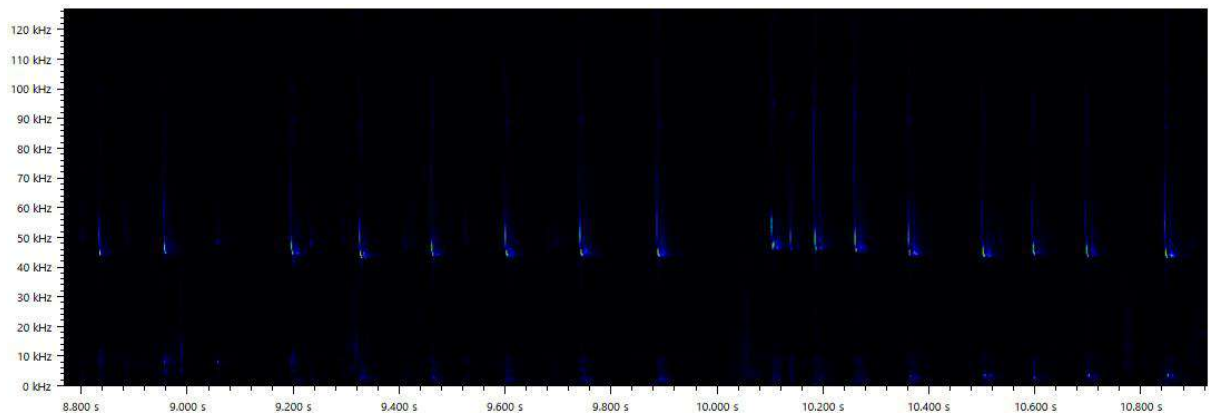
Static Detector Monitoring Surveys			
Species	Total number of recordings over survey period	Average number of recordings per night over survey period	Percentage of total number of recordings
All Statics Combined			
Myotis sp.	580	6.59	3.95
Nyctalus leisleri	2	0.02	0.01
Nyctalus noctula	11	0.13	0.07
Pipistrellus nathusii	114	1.30	0.78
Pipistrellus pipistrellus	13,853	157.42	94.42
Pipistrellus pygmaeus	85	0.97	0.58
Plecotus auritus	26	0.30	0.18
All Species	14,671	166.72	100
Static 1 Total			
Myotis sp.	304	10.13	3.84
Nyctalus leisleri	2	0.07	0.03
Nyctalus noctula	7	0.23	0.09
Pipistrellus nathusii	78	2.60	0.98
Pipistrellus pipistrellus	7,456	248.53	94.14
Pipistrellus pygmaeus	72	2.40	0.91
Plecotus auritus	1	0.03	0.01
All Species	7,920	264.00	100
Static 2 Total			
Myotis sp.	276	9.86	4.09
Nyctalus leisleri	0	0.00	0.00
Nyctalus noctula	4	0.14	0.06
Pipistrellus nathusii	36	1.29	0.53
Pipistrellus pipistrellus	6,397	228.46	94.76
Pipistrellus pygmaeus	13	0.46	0.19
Plecotus auritus	25	0.89	0.37
All Species	6,751	241.11	100

Average number of recordings per night each season		
Season	Static 1	Static 2
Spring	509.4	474.8
Summer	225.0	281.0
Autumn	57.6	14.3

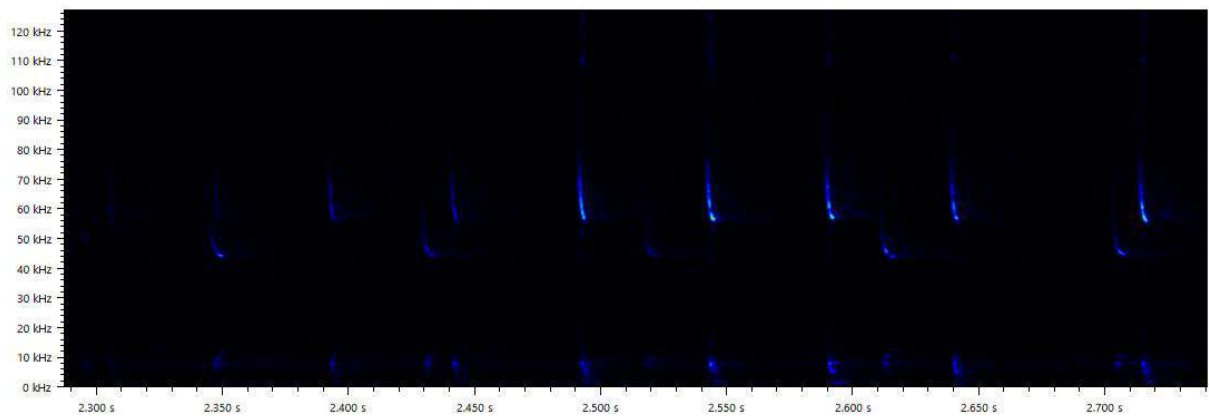
Percentage of species recorded at each static		
Species	Static 1	Static 2
Myotis sp.	52%	48%
Nyctalus leisleri	100%	0%
Nyctalus noctula	64%	36%
Pipistrellus nathusii	68%	32%
Pipistrellus pipistrellus	54%	46%
Pipistrellus pygmaeus	85%	15%
Plecotus auritus	4%	96%
All Species	54.0%	46.0%



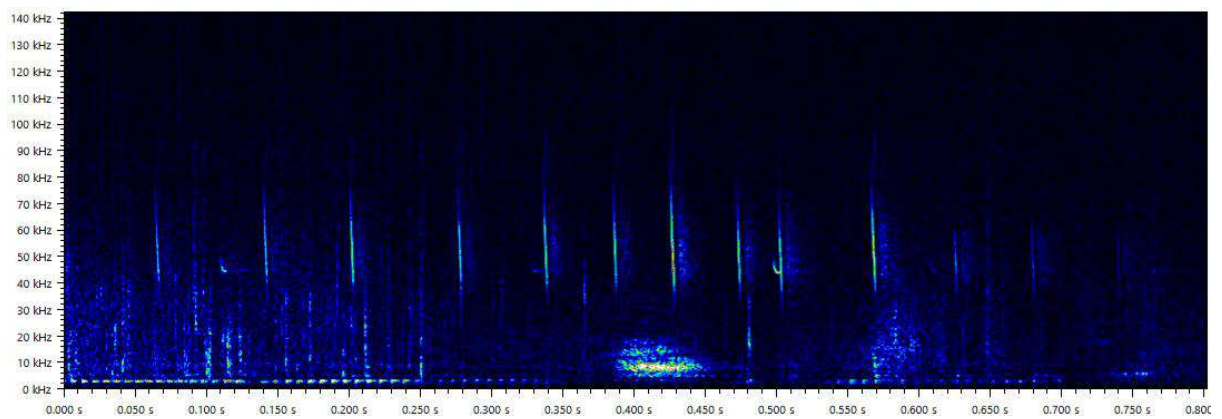
Appendix 6 – Sonograms



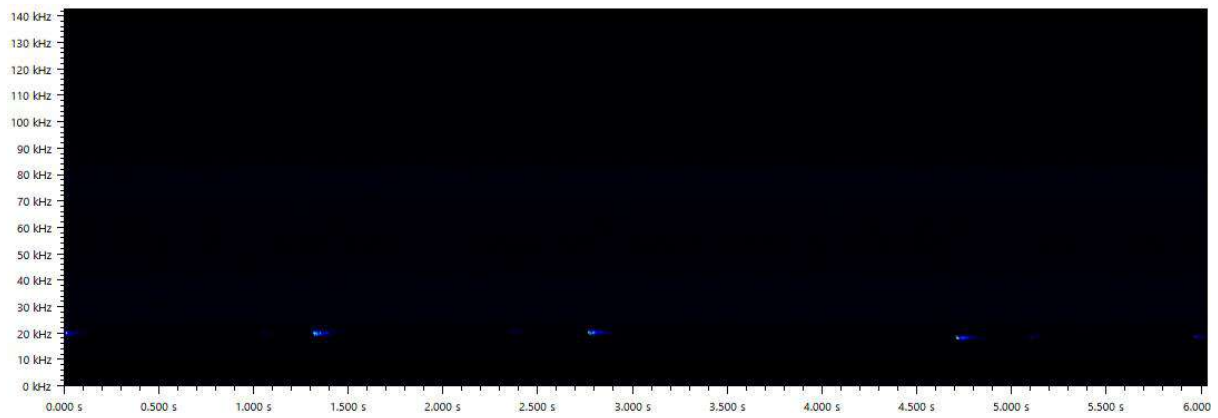
Sonogram 1 – common pipistrelle recorded during a NBW at 22:08 on 22/04/2024.



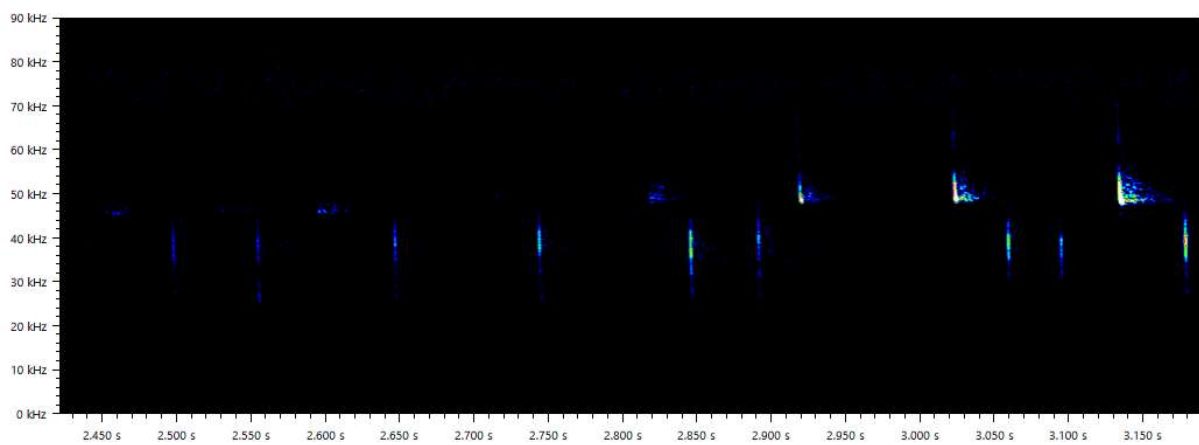
Sonogram 2 – soprano pipistrelle recorded during a NBW at 21:47 on 22/04/2024.



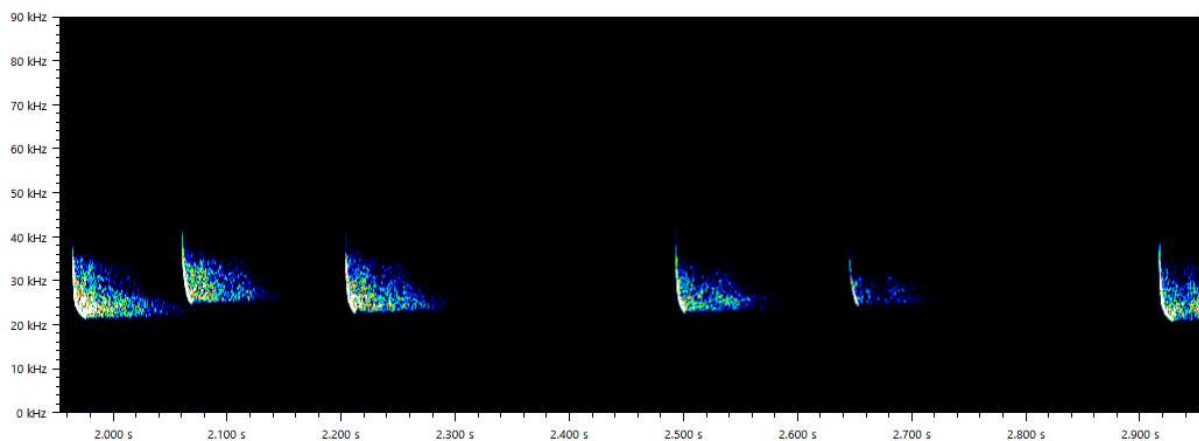
Sonogram 3 – *Myotis* sp. recorded during a NBW at 21:37 on 22/04/2024.



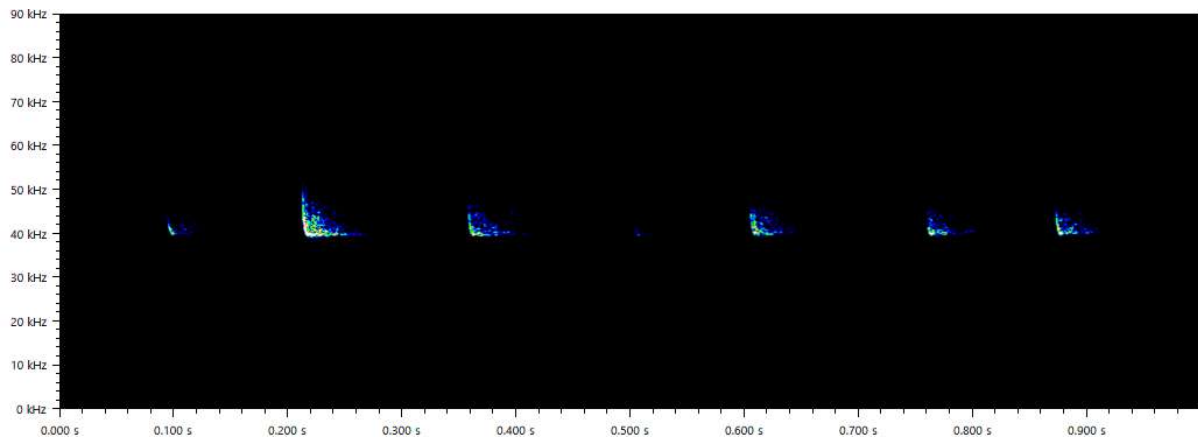
Sonogram 4 – noctule recorded by a static detector at 20:39 on 16/08/2024.



Sonogram 5 – BLE recorded by a static detector at 20:52 on 22/07/2024.



Sonogram 6 – Leisler's recorded by a static detector at 06:49 on 10/06/2024.



Sonogram 7 – Nathusius' pipistrelle recorded by a static detector at 22:12 on 30/04/2024.



Appendix 7 – External lighting guidance

Lighting scheme in relation to bats

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.
2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component.
- High pressure Sodium Lamps (SON) emit a small UV component.
- White SON, though low in UV, emit more than regular SON.

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.
- Variable
- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.
- Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

- Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.
- Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.
- If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas. Light should not leak upwards to illuminate first floor and higher levels.
- Lamps of greater than 2000 lumens (150 W) must not be used.
- Movement or similar sensors must be used. They must be carefully installed and aimed, to reduce the amount of time a light is on each night.
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible. Light must not be directed at or close to bat roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit.
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.



Appendix 8 – Statutory and planning context

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the “Habitats Regulations”). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] ... uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include fines of up to £5000, plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by Natural England.

A Natural England mitigation licence application requires a Mitigation Method Statement and, in many cases, a Reasoned Statement of Application. The Mitigation Method Statement contains details of the proposed mitigation works. The Reasoned Statement needs to provide a rational and reasoned justification as to why the proposed development meets the requirements of the Conservation (National Habitats & c.) regulations 1994, namely Regulations 44(2)(e), (f) or (g), and 44(3)(a).

The National Planning Policy Framework 2021 (NPPF) provides guidance on the interpretation of the law in relation to the natural environment and development.

The Natural Environment and Rural Communities (NERC) Act 2006 lists the following bat species as species of principle importance under Section 41:

- Barbastelle *Barbastella barbastellus*
- Bechstein’s bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Section 40 requires every public body in the exercising of its functions ‘have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity’ (all biodiversity and not just section 41 species and habitats); therefore making these bats a material consideration in the planning process and requiring a detailed ecological bat survey before planning permission can be granted.

Planning policy

National Planning Guidance is issued in the form of the National Planning Policy Framework 2021 (NPPF). The most relevant section is 15: Conserving and enhancing the natural environment.

Key relevant principles stated in 15: Conserving and enhancing the natural environment are;

- 174.** Planning policies and decisions should contribute to and enhance the natural and local environment by:
- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
 - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- 179.** To protect and enhance biodiversity and geodiversity, plans should:
- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity⁶¹; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation⁶²; and
 - b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity
- 180.** When determining planning applications, local planning authorities should apply the following principles:
- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
 - c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and
 - d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.