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Summary

Fenswood Ecology was commissioned by North Somerset Council, to undertake a series of bat surveys to assess the presence/absence of roosting bats within the main school building of Kewstoke Primary School (centred around Ordnance Survey Grid Reference: ST 33758 63399). An assessment of the site was undertaken by Jamie Edmonds and Grace Temlett in March 2022.

Three dusk surveys were completed in June/July 2022 which found **no evidence** of roosting bats using the main school building (See data in Appendix 2). Bat species including common, Nathuisius and soprano pipistrelle, noctule, greater horseshoe, whiskered, brown long eared and serotine were identified during the surveys. All activity recorded were of bats commuting or foraging around the school buildings, grounds and road.

Recommendations for post development ecological enhancement measures are provided where relevant.

Introduction

Fenswood Ecology was commissioned by North Somerset Council, to undertake a series of bat surveys to assess the presence/absence of roosting bats within the main school building of Kewstoke Primary School (centred around Ordnance Survey Grid Reference: ST 33758 63399). An assessment of the site was undertaken by Jamie Edmonds and Grace Temlett in March 2022.

Three emergence/ activity surveys were completed to ascertain if bats were roosting in the building and to better understand how bats were using the features within the site and surrounding area in June/July 2022.

Bats are protected and considered to be of primary importance under UK legislation, namely the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2010 and the Natural Environment and Rural Communities Act 2006.

This report details the findings of the survey work and subsequent assessment. Methodologies employed are described including site surveys and evaluation and the need for any further survey work and/or mitigation measures are included, where appropriate.

Methodology

Bats

All buildings and trees on site were inspected to assess their potential to support roosting bats, in accordance with current best practice guidelines (Collins, 2016) and Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys (Bat Conservation Trust, 2022).

An individual building or tree may have several features of potential interest to roosting bats. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently, it is normal practice when undertaking such surveys to assign each feature to a defined category of roosting potential as follows:

Negligible: This category is usually used where a feature appears initially to have significant bat roost potential but is considered on closer inspection to have no or very limited potential to support roosting bats. It is usually used during surveys to confirm that inspection of a feature has been carried out and has found that the feature is not considered to comprise suitable habitat for roosting bats.

Low: This category is used to describe a feature that may have some superficial interest to roosting bats but is considered suboptimal to the extent that bats are not considered likely to use the feature for shelter. A cavity that is open at the top allowing access to wind and rain may be considered to be of low bat roost potential.

Moderate: This category is used to describe a feature that has some potential to support roosting bats but is considered to be less than ideal in some way. For example, the feature may be occupied by other animals, such as birds or squirrel; it may be subject to disturbance or have sub-optimal connectivity with navigational features.

High: This category is used to describe an optimal feature considered to be ideally suitable for use by roosting bats where no evidence of occupation by bats has been found. Features considered to be of high bat roost potential may include upwards-leading cavities of appropriate dimensions and height from the ground, with no obstructions below the cavity entrance. The tree may be particularly prominent within the landscape and is likely to have good connectivity with navigational features and sufficient suitable foraging habitat in the vicinity.

Confirmed: This category is used where positive evidence of bats usage has been recorded from a feature. For example, bats or bat droppings may be present, or existing bat records may be associated with the feature. A licence from Natural England is likely to be required if the bat roost is to be disturbed by the development.

Three emergence dusk surveys were carried out during June/ July 2022 (See Table 1 below) by Grace Temlett, Jamie Edmonds, Patricia Sellam and Bethan Smith. The methodology adopted for the surveys followed current best practice guidelines (Collins, 2016), beginning the survey 15 minutes prior to sunset and continuing to record bat activity for an hour and half after sunset (dusk). All surveyors used Echo Meter Touch 2 Pro bat detectors to record activity. Any flight lines were then recorded onto a map to track any significant behaviours. A Pulsar Helion 2 thermal imaging camera was also used on the third survey, with recordings reviewed to ensure any emergence during the darker period of the survey was not missed. See Appendix 2 Figure 1 for locations.

Table 1; Survey Descriptions

Bat survey type	Date	Survey conditions
Emergence survey	01/06/22	Clear sky, dry, beaufort scale 1. Start temperature 14°C, end temperature 12°C. Sunset time 21.18
Emergence survey	15/06/22	Clear sky, dry, beaufort scale 3. Start and end temperature 15°C. Sunset time 21.30
Emergence survey	04/07/22	Cloudy, dry, beaufort scale 3. Start and end temperature 15°C. Sunset time 21.30

Limitations to Survey

Access to the full application site was provided.

The surveys were undertaken within the optimal survey season, and it is considered that a robust evaluation of bat activity within and around the site has been made.

Findings and Evaluation

Site Description

The site consists of a primary school with multiple buildings of various ages and with extensions added at various points. Immediately to the north of the main buildings is the main road, with hard standing play area to the east, west and south. Beyond the school boundary to the south is a native woodland, to the north, east and west is the village of Kewstoke.

Designated Sites

The proposed site falls within the SSSI/SAC impact zone for the Severn Estuary which is designated as an SSSI, SAC, SPA and Ramsar. At its closest point the estuary designation is 780m to the west. The estuary has an immense tidal range (the second highest in the world) with a classic funnel shape, making it unique in Britain and very rare worldwide. The intertidal zone of mudflats, sand banks, rocky platforms and saltmarsh is one of the largest and most important in Britain. The estuarine fauna includes internationally important populations of waterfowl; invertebrate populations of considerable interest; and large populations of migratory fish (Natural England, 2022).

Weston Woods LNR is also situated 290m to the southwest. This is a 130ha woodland, which has naturally re-vegetated after it was clear felled during World War One. There is a small area of ancient woodland within the site known as Ashcombe Wood. The reserve has an abundance of common plant, animal and bird species (Natural England, 2022*).

The site is also within Band C of the Consultation Zone for the North Somerset & Mendip Bat SAC (North Somerset Council, 2018).

Bat Survey Results

MAGIC Maps provided historic information of previously applied for EPS mitigation licenses. Two licences were identified within 2km, including one 1.4km to the southwest (2013) and one 1.7km to the southeast (2018). The licences covered five species of bats including greater and lesser horseshoe. There are numerous other bat EPS mitigation license records within the wider landscape suggesting bats are prevalent in this area. See Appendix 2, Figure 3.

The activity surveys found no evidence of roosting bats using any of the buildings within the red line boundary (See data in Appendix 2). Bat species including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius pipistrelle (*Pipistrellus nathusii*) noctule (*Nyctalus noctule*), brown long eared (*Plecotus auratus*), whiskered (*Myotis mystacinus*), serotine (*Eptesicus serotinus*) and greater horseshoe (*Rhinolophus ferrumequinum*) were identified during the dusk surveys.

During the first dusk survey (01/06/22), a total of 100 bats were recorded foraging/commuting. The majority of these bat records were shared by multiple surveyors from several locations, so it is likely that the number of actual bats passing was half of this.

During the second dusk survey (15/06/22), a total of 80 bats were recorded foraging/commuting. The majority of these bat records were shared by multiple surveyors from several locations, so it is likely that the number of actual bats

passing was half of this.

During the third dusk survey (04/07/22), a total of 87 bats were recorded foraging/commuting. The majority of these bat records were shared by multiple surveyors from several locations, so it is likely that the number of actual bats passing was half of this. Images from the thermal camera were reviewed and showed no signs of bats emerging from the building.

For the full data records, please see Appendix 2.

Ecological Assessment and Mitigation

The Scheme

The project is to replace the existing roof on the main school building.

Bats

All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Under Regulation 41 bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).

All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

Barbastelle (*Barbastella barbastellus*), Bechstein's (*Myotis bechsteinii*), brown long-eared (*Plecotus auritus*), greater horseshoe (*Rhinolophus ferrumequinum*), lesser horseshoe (*R.hipposideros*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Three dusk surveys were completed in June/July 2022 which found **no evidence** of roosting bats using the main school building (See data in Appendix 2). Bat species including common, Nathuisius and soprano pipistrelle, noctule, greater horseshoe, whiskered, brown long eared and serotine were identified during the surveys. All activity recorded were of bats commuting or foraging around the school buildings, grounds and road.

As the proposed works are to replace the existing roof like for like there should be no impact of additional light spill for foraging and commuting bats.

Although none of the buildings were identified as bat roosting sites at the time of survey, it should be appreciated that almost any structure may be used by an individual or transient bat from time to time. Bats require very limited cavity space and only very small roost entry gaps and can be found in any structure which provides close shelter. Should bats be discovered on site at any time, works should be halted in the immediate area and an appropriately trained, qualified and licensed ecologist consulted immediately.

References

Bat Conservation Trust (2022) Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. <u>https://cdn.bats.org.uk/uploads/pdf/Interim-guidance-note-on-NVAs-May-</u> <u>2022-</u> <u>FINAL.pdf?v=1653399882#:~:text=This%20Interim%20Guidance%20Note%2</u> <u>Oaims,predicted%20to%20be%20in%20summer</u> Accessed June 2022

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.)*. Bat Conservation Trust, London

Great Britain. Department for Communities and Local Government (2012) *National Planning Policy Framework*. London: Department for Communities and Local Government.

IEEM (2016) *Guidelines for Ecological Impact Assessment in the United Kingdom.* IEEM, Winchester, UK.

JNCC (2007). Handbook for Phase 1 habitat survey – A technique for environmental audit. JNCC. Peterborough.

Multi-Agency Geographical Information for the Countryside (MAGIC), <u>http://magic.defra.gov.uk</u>, accessed July 2022

Natural England (2022). Designated sites citation – Severn Estuary <u>https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1002284.</u> <u>pdf</u>

accessed July 2022

Natural England (2022*). Designated Sites View – Weston Woods <u>https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L11341</u> <u>80</u>

accessed July 2022

North Somerset Council (2018). North Somerset and Mendip Bats Special Area of Conservation (SAC) Guidance on Development: Supplementary Planning Document

Appendix 1: Site photographs



Photo 1. Rear of the main school building (south)



Photo 2. Front of the main school building looking east.



Photo 3. Western end of the main school building



Photo 4. Central dormer at the rear of the main building

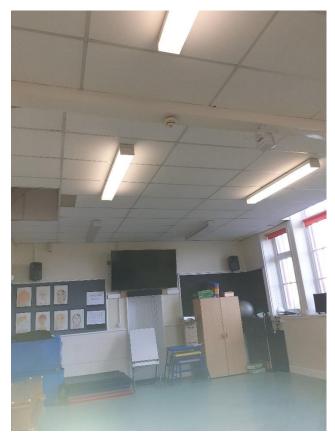
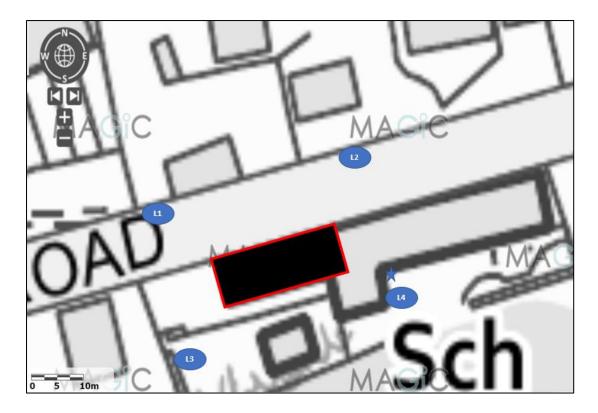


Photo 5. Inside the main building

Appendix 2

Figure 1; Bat survey location of surveyor



Location	01/06/2022	15/06/2022	04/07/2022
L1	Jamie Edmonds	Bethan Smith	Bethan Smith
L2	Bethan Smith	Patricia Sellam	Patricia Sellam
L3	Patricia Sellam	Grace Temlett	Grace Temlett
L4	Grace Temlett	Jamie Edmonds	Jamie Edmonds
Star	Location of thermal camera (04/07/22 only)		



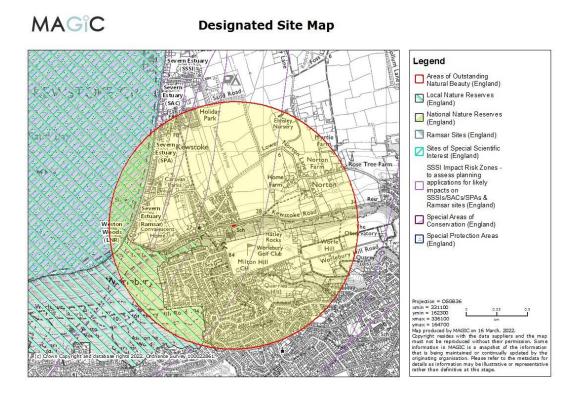


Figure 3: Granted European Species Licence Map



Granted EPS Licence Map (2km Buffer)

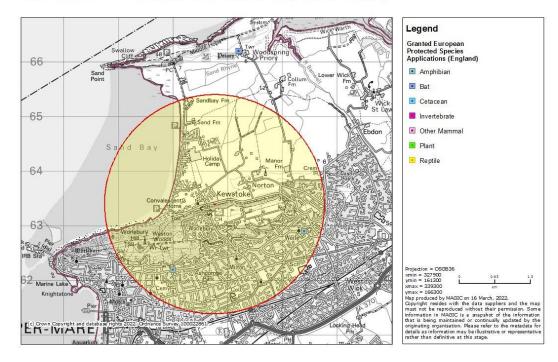


Figure 4. Bat survey data

01/06/22 - Surveyor L1 (Jamie Edmonds)

Time	Bat Species	Activity
21.40	Common pipistrelle	Commuting W
21.41	Common pipistrelle	Commuting W
21.43	Nathusius pipistrelle	Heard only
21.50	Serotine	Commuting W
21.55	Common pipistrelle	Foraging only road
21.56	Common pipistrelle	Commuting W
22.01	Common pipistrelle	Commuting E
22.02	Common pipistrelle	Heard only
22.03	Serotine	Commuting W and turn S over playground
22.10	Common pipistrelle	Heard only
22.12-33	Common pipistrelle	Continuous foraging over W playground
22.18	Serotine	Commuting E
22.21	Serotine	Commuting W
22.39	Common pipistrelle	Heard only
22.44	Serotine	Heard only
22.46	Serotine	Heard only

01/06/22 - Surveyor L2 (Bethan Smith)

Time	Bat Species	Activity
21.42	Common pipistrelle	Commuting W along road
21.44	Common pipistrelle	Commuting N to S over school
21.49	Common pipistrelle	Heard only
21.52	Common pipistrelle	Commuting N to S over school
21.54	Common pipistrelle	Heard only
22.02	Common pipistrelle	Heard only
22.03	Common pipistrelle	Commuting E along road
22.08	Lesser horseshoe	Heard only
22.11	Common pipistrelle	Foraging along road
22.16	Common pipistrelle	Commuting N to S over school
22.22	Common pipistrelle	Heard only
22.29	Common pipistrelle	Heard only
22.35	Noctule	Heard only
22.36	Common pipistrelle	Heard only
22.40	Common pipistrelle	Heard only
22.45	Common pipistrelle	Heard only
22.47	Noctule	Heard only

01/06/22 - Surveyor L3 (Patricia Sellam)

Time	Bat Species	Activity
21.31	Noctule	Heard only
21.40	Common pipistrelle	Commuting S
21.42	Common pipistrelle	Commuting S
21.43	Common pipistrelle	Foraging W of school
21.46	Common pipistrelle	Commuting W over school
21.49	Common pipistrelle	Commuting NW
21.51	Common pipistrelle	Foraging W of school
21.53	Serotine	Commuting S
21.53	Common pipistrelle	Heard only
21.54	Serotine	Heard only
21.55	Serotine	Heard only
21.56	Common pipistrelle	Commuting W along tree line
21.58	Common pipistrelle	Heard only
21.59	Common pipistrelle	Heard only
22.00	Common pipistrelle	Commuting S
22.02	Common pipistrelle	Commuting S
22.03	Serotine	Commuting S over school
22.04	Soprano pipistrelle	Commuting S
22.06	Serotine	Commuting NW
22.08	Serotine	Heard only
22.09	Common pipistrelle	Heard only
22.10	Common pipistrelle	Heard only
22.11	Soprano pipistrelle	Commuting NW
22.12	Common pipistrelle	Heard only
22.13	Soprano pipistrelle	Heard only
22.14	Soprano pipistrelle	Commuting NW
22.16	Soprano pipistrelle	Heard only
22.17	Brown long eared	Heard only
22.19	Serotine	Commuting S
22.22	Common pipistrelle	Heard only
22.24	Serotine	Heard only
22.24	Common pipistrelle	Heard only
22.27	Common pipistrelle	Commuting S
22.29	Common pipistrelle	Heard only
22.31	Common pipistrelle	Heard only
22.33	Common pipistrelle	Heard only
22.33	Soprano pipistrelle	Heard only
22.35	Common pipistrelle	Heard only
22.40	Common pipistrelle	Heard only

22.44	Serotine	Heard only
22.46	Noctule	Heard only

01/06/22 - Surveyor L4 (Grace Temlett)

Time	Bat Species	Activity
21.44	Common pipistrelle	Commuting W along woodland edge
21.48	Common pipistrelle	Heard only
21.51	Common pipistrelle	Commuting W along woodland edge
21.52	Serotine	Commuting W along woodland edge
21.52	Brown long eared	Commuting W along woodland edge
21.53	Serotine	Commuting W along woodland edge
21.55	Brown long eared	Heard only
21.56	Common pipistrelle	Commuting E along woodland edge
21.59	Common pipistrelle	Heard only
22.00	Serotine	Commuting W along woodland edge
22.02	Soprano pipistrelle	Heard only
22.03	Serotine	Foraging around lower play area
22.06	Serotine	Commuting W along woodland edge
22.08	Serotine	Commuting W along woodland edge
22.11	Serotine	Commuting W along woodland edge
22.11	Brown long eared	Commuting W along woodland edge
22.13	Brown long eared	Heard only
22.14	Serotine	Commuting W along woodland edge
22.16	Serotine	Commuting W along woodland edge
22.18	Soprano pipistrelle	Heard only
22.20	Serotine	Commuting W along woodland edge
22.22	Common pipistrelle	Heard only
22.24	Serotine	Commuting W along woodland edge
22.28	Common pipistrelle	Commuting W along woodland edge
22.34	Common pipistrelle	Commuting W along woodland edge
22.35	Serotine	Heard only

Time	Bat Species	Activity
21.24	Nathusius pipistrelle	Heard only
21.39	Common pipistrelle	Commuting S over school
21.43	Common pipistrelle	Commuting S over school
21.47	Common pipistrelle	Commuting S over school
21.49	Serotine	Commuting NW along school
21.52	Common pipistrelle	Commuting S
21.54	Common pipistrelle	Heard only
21.59	Common pipistrelle	Commuting NW along school
22.05	Serotine	Heard only
22.07	Soprano pipistrelle	Commuting NW along school
22.20	Serotine	Commuting NW along school
22.50	Common pipistrelle	Heard only
23.00	Common pipistrelle	Heard only

15/06/22 - Surveyor L1 (Bethan Smith)

15/06/22 - Surveyor L2 (Patricia Sellam)

Time	Bat Species	Activity
21.35	Common pipistrelle	Heard only
21.40	Common pipistrelle	Foraging along woodland edge
21.43	Nathusius pipistrelle	Foraging along woodland edge
21.47	Common pipistrelle	Commuting S over school
21.51	Common pipistrelle	Commuting S over school
21.52	Common pipistrelle	Commuting S over school
21.54	Common pipistrelle	Commuting S over school
22.01	Common pipistrelle	Commuting S over school
22.07	Serotine	Heard only
22.18	Noctule	Heard only
22.22	Soprano pipistrelle	Heard only
22.27	Common pipistrelle	Heard only
22.31	Common pipistrelle	Heard only
22.39	Soprano pipistrelle	Heard only
22.39	Natterers	Heard only
22.41	Serotine	Heard only
22.44	Common pipistrelle	Heard only
22.46	Noctule	Heard only
22.50	Common pipistrelle	Heard only
22.53	Serotine	Heard only

15/06/22 - Surveyor L3 (Grace Temlett)

Time	Bat Species	Activity
21.34	Nathusius pipistrelle	Foraging along tree line
21.38	Common pipistrelle	Commuting E
21.39	Common pipistrelle	Commuting E
21.40	Common pipistrelle	Commuting E over school
21.43	Common pipistrelle	Heard only
21.44	Common pipistrelle	Foraging along tree line
21.47	Common pipistrelle	Foraging along tree line
21.49	Common pipistrelle	Commuting E over school
21.51	Common pipistrelle	Foraging along tree line
21.52	Common pipistrelle	Commuting E over school
21.54	Common pipistrelle	Commuting S around school
21.58	Common pipistrelle	Foraging along tree line
22.00	Common pipistrelle	Foraging along tree line
22.06	Serotine	Commuting W along tree line
22.07	Serotine	Commuting W along tree line
22.14	Whiskered	Heard only
22.15	Serotine	Commuting W along tree line
22.16	Common pipistrelle	Heard only
22.18	Noctule	Heard only
22.19	Whiskered	Commuting W along tree line
22.28	Greater horseshoe	Heard only
22.38	Serotine	Commuting W along tree line
22.40	Common pipistrelle	Continuous foraging for 10mins
22.53	Common pipistrelle	Heard only
22.56	Common pipistrelle	Continuous foraging for 2mins

Time	Bat Species	Activity
21.48	Common pipistrelle	Flying N to S over school
21.48	Common pipistrelle	Flying N to S over school
21.52	Common pipistrelle	Flying N to S over school
21.56	Common pipistrelle	Heard only
22.01	Common pipistrelle	Flying N to S over school
22.06	Serotine	Heard only
22.07	Serotine	Commuting W along tree line
22.11	Common pipistrelle	Commuting E along tree line
22.15	Serotine	Commuting W along tree line
22.16	Common pipistrelle	Heard only
22.18	Noctule	Heard only
22.21	Common pipistrelle	Heard only
22.22	Common pipistrelle	Heard only
22.27	Common pipistrelle	Commuting E along tree line
22.28	Greater horseshoe	Heard only
22.30	Soprano pipistrelle	Heard only
22.32	Common pipistrelle	Heard only
22.36	Common pipistrelle	Heard only
22.36	Common pipistrelle	Heard only
22.38	Serotine	Commuting W along tree line
22.41	Serotine	Commuting W along tree line
22.44	Common pipistrelle	Heard only
22.50	Common pipistrelle	Heard only
22.53	Serotine	Heard only

15/06/22 - Surveyor L4 (Jamie Edmonds)

04/07/22 - Surveyor L1 (Bethan Smith)

Time	Bat Species	Activity
21.30	Common pipistrelle	Flying N over school
21.33	Common pipistrelle	Flying N over school
21.35	Common pipistrelle	Flying N over school
21.36	Common pipistrelle	Flying S over school
21.38	Nathusius pipistrelle	Flying S over school
21.40	Common pipistrelle	Flying S over school
21.42	Common pipistrelle	Flying S over school
21.43	Common pipistrelle	Flying S over school
21.44	Common pipistrelle	Flying S over school
21.45	Common pipistrelle	Heard only

21.48	Common pipistrelle	Heard only
21.50	Common pipistrelle	Heard only
21.51	Common pipistrelle	Flying S over school
21.55	Common pipistrelle	Heard only
22.00	Serotine	Flying N over school
22.05	Common pipistrelle	Flying N along school
22.07	Common pipistrelle	Heard only
22.10	Common pipistrelle	Heard only
22.12	Soprano pipistrelle	Flying N over school
22.22	Common pipistrelle	Heard only
22.30	Soprano pipistrelle	Heard only
22.35	Common pipistrelle	Heard only
22.49	Common pipistrelle	Heard only

04/07/22 - Surveyor L2 (Patricia Sellam)

Time	Bat Species	Activity
21.35	Common pipistrelle	Commuting S over school
21.36	Common pipistrelle	Commuting S over school
21.38	Common pipistrelle	Commuting S over school
21.39	Common pipistrelle	Commuting S over school
21.40	Common pipistrelle	Commuting E along tree line
21.41	Common pipistrelle	Heard only
21.42	Common pipistrelle	Commuting S over school
21.42	Common pipistrelle	Commuting S over school
21.43	Common pipistrelle	Commuting E along tree line
21.43	Common pipistrelle	Commuting S over school
21.44	Common pipistrelle	Commuting S over school
21.47	Common pipistrelle	Commuting S over school
21.49	Common pipistrelle	Commuting N alongside school
21.50	Common pipistrelle	Commuting S over school
21.51	Common pipistrelle	Heard only
21.52	Common pipistrelle	Commuting S over school
21.54	Common pipistrelle	Heard only
22.00	Serotine	Commuting S over school
22.05	Common pipistrelle	Heard only
22.06	Serotine	Heard only
22.12	Soprano pipistrelle	Commuting E along road
22.28	Serotine	Heard only
22.34	Common pipistrelle	Heard only
22.36	Greater horseshoe	Heard only

Time	Bat Species	Activity
21.28	Common pipistrelle	Foraging/ commuting E
21.30	Common pipistrelle	Foraging/ commuting E
21.33	Common pipistrelle	Heard only
21.37	Common pipistrelle	Foraging/ commuting E
21.39	Noctule	Heard only
21.40	Common pipistrelle	Foraging/ commuting E
21.41	Common pipistrelle	Commuting S over school
21.44	Common pipistrelle	Commuting S over school
21.47	Nathusius pipistrelle	Commuting E along tree line
21.48	Common pipistrelle	Commuting E along tree line
21.50	Common pipistrelle	Commuting S over school
21.51	Common pipistrelle	Commuting S over school
21.51	Common pipistrelle	Chasing towards tree line
21.57	Common pipistrelle	Commuting W along tree line
21.59	Common pipistrelle	Commuting E along tree line
22.07	Serotine	Commuting W along tree line
22.10	Common pipistrelle	Commuting E along tree line
22.15	Common pipistrelle	Heard only

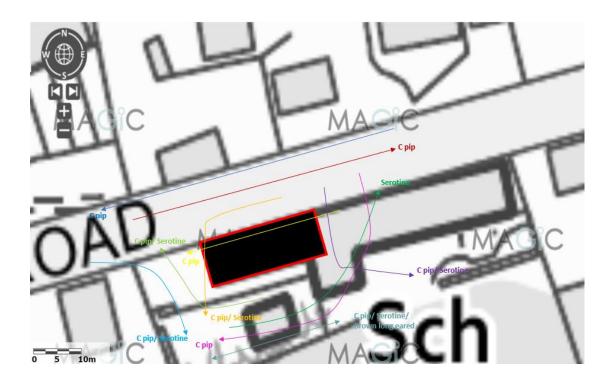
04/07/22 - Surveyor L3 (Grace Temlett)

15/06/22 - Surveyor L4 (Jamie Edmonds)

Time	Bat Species	Activity
21.35	Common pipistrelle	Commuting SW over school
21.37	Common pipistrelle	Commuting S and then W over school
21.38	Common pipistrelle	Commuting S and then W over school
21.39	Common pipistrelle	Commuting S and then W over school
21.40	Nathusius pipistrelle	Commuting S and then W over school
21.40	Common pipistrelle	Commuting S and then W over school
21.41	Common pipistrelle	Commuting S and then W over school
21.43	Common pipistrelle	Foraging along tree line
21.43	Common pipistrelle	Commuting S and then W over school
21.44	Common pipistrelle	Commuting S and then W over school
21.47	Nathusius pipistrelle	Commuting N over school
21.51	Common pipistrelle	Commuting S and then W over school
21.52	Common pipistrelle	Commuting S and then W over school
21.52	Nathusius pipistrelle	Commuting S and then W over school
21.59	Common pipistrelle	Heard only
22.00	Serotine	Commuting N over school

22.04	Common pipistrelle	Heard only
22.07	Serotine	Heard only
22.18	Common pipistrelle	Heard only
22.25	Common pipistrelle	Heard only
22.33	Common pipistrelle	Heard only
22.39	Common pipistrelle	Heard only

Figure 4a Summary of Bat Activity Flight Lines 01/06/22



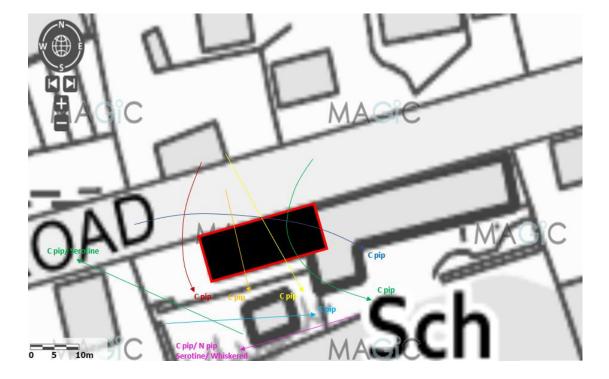


Figure 4b Summary of Bat Activity Flight Lines 15/06/22

Figure 4c Summary of Bat Activity Flight Lines 04/07/22

