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ALDER ECOLOGY UK LTD

Working for the Client - Working with Wildlife

United Reform Church, Holt, Wiltshire, BA14 6RS

AEUK 15014

Bat & Bird Survey and Assessment

Roger Martindale

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Registered Company address:

**Alder Ecology UK Ltd, 22, Millards Close, Hilperton Marsh, Trowbridge, Wiltshire
BA14 7UN**

Tel: 01225 765604 Mob: 07533 273939 e-mail: rmartindale@btinternet.com

Company registration number 6852967

Project: Holt URC

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Introduction

The site, United Reformed Church, The Street, Holt, Wiltshire, England, BA14 6RS national grid reference: ST860618 (what3words indoors.fresh.hack) (hereafter referred to as the “site”) has been assessed for breeding birds and bats based on the assessment criteria within the Bat survey guidelines 2023 and from undertaking a visual daytime inspection on 30th July 2024 and emergence surveys and breeding bird checks on 30th July 2024, 14th August 2024 and 16th September 2024. The total site size is approximately 0.157ha (0.388 acres) of hard standing, grass verge and ornamental shrubs.

The site is located in the village of Holt, Wiltshire and is set in residential setting surrounded on all sides by residential properties including the National Trust property The Courts, Holt to the south west. The habitat is urban and considered low quality for bird and bat species with municipal lighting and lighting on the property reducing the quality for bats.

Proposed works

The plans for the property are proposing the re-roofing the church roof and the hall roof if required.

Objectives

The objectives of the ecological assessment were to:

- Identify if bats/bird are roosting on site or have potential to roost/breed on site;
- Identify the presence or potential presence of bats a protected species whose disturbance may require consent under The Conservation of Habitats and Species Regulations, 2010;
- Identify the need for further targeted surveys on site;
- Identify any bat/bird species which may require special mitigation during the works; and
- Identify any areas that may require special protection during the development.

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Map 1 showing the approximate ownership plot

Methodology

Building Inspection bats

The methodology, surveyors and equipment used were undertaken in accordance with and guided by the BCT bat survey guidelines 3rd edition 2023.

Physical external/internal site inspection of the building was undertaken by the lead surveyor.

The surveyor conducted this inspection using the equipment described below to assist the inspection, and approximately a half day of search effort was expended. A 3.8m telescopic ladder was used to gain access to various points and a Led Lenser (2 million candlepower) searchlight fitted with a red filter was used to search dark areas for signs of bats. A Pro Vision 2100 Endoscope was utilised to assist inspection of internal spaces. Pentax 0.5m Papilio

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(8.5x21) close focusing binoculars were used to view areas inaccessible on foot. A telescopic inspection mirror was used to look on top of structures for evidence of bats.

The physical search includes a search for live animals and a search for other signs that give an indication of past or present occupancy as outlined below.

In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated or at least be indicative of species type), signs of staining, urine splashing, characteristic odours, and accumulations of discarded prey remains.

In order to record and observe bats in the roosts if present a Fenix 1,000,000 torch with red filter was used along with a Guide IR 518 Thermal imaging camera and a Genysys NVs Discovery 5X PG Night vision scope with a 810NM infra-red illuminator was used to aid detection and identification. This enables bats to be pin pointed within buildings and enabled observation of bats in the roost if present.

Breeding birds

A check was undertaken at the same time for breeding birds within the property or in close proximity to the property. Using standard techniques to search for breeding birds; looking for historic use of the property (old nests), current use of the property or gardens and birds calling or holding territory.

Assessment of the Building for Bat Roosting Potential

The site was visited during the daytime on 30th July 2024 during which the assessment of the building for bat potential was undertaken.

The surveyor conducted a visual inspection. This consists of two parts. The first part (building assessment) was undertaken during this survey. The second part (emergence survey) was undertaken due to assessment potential recorded as moderate/high suitability for bats.

A DJI Mavic mini 2 drone was used to aid the survey of the roof of the property and areas around the building.

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- Use close focusing binoculars to inspect the building from the ground to the roof inside and outside.
- Inspection of all aspects of the building.
- Look for features indicative of bat roosts cracks and crevices inside and outside building.
- Looking for signs of bat occupation both inside and outside the building and areas in close proximity.
- Use of a high powered torch to highlight cavities and shady areas of the building.

Evening emergence/activity bat detector surveys

Prior to the commencement of the acoustic survey the surveyors visually inspected the buildings for bats in known favoured roosting areas. On completion of this task the surveyors positioned themselves to allow for inspection of bats exiting/re-entering the buildings. Surveyors also positioned themselves to be able to see bat emerge inside the buildings prior to exiting the building to forage externally.

An Anabat SD1 detector with PDA attachment and a time expansion bat detector (Pettersson D240x) were used by both the lead surveyor and assistant. The time expansion bat detector was linked to a digital recorder (Roland Edirol R09) for subsequent sonogram analysis in the using 'Bat Sound V3.31' software to further increase the chance of accurate species identification. The Anabat detector with PDA records information directly into the device for computer analysis later using AnalookW bespoke software. The surveyors supplemented this active detector work with the use of passive Anabat SD1 remote detectors placed strategically around the site. The detectors were deployed in different locations during each survey. The data collected was analysed using AnalookW bespoke software to identify species recorded. All calls for both detector types were cross referenced to a call reference collection library of known bat species to confirm species presence

All surveys duration was 3hrs due to the local presence of Horseshoe bats.

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Environmental variables

Table 1 Environmental variables

		Temp start	Temp end	Wind speed max	Wind speed ave	Cloud cover start	Cloud cover end	Relative Humidity	Precipitation
30th	July	18.2°C	16.6°C	2.3mph	0.2mph	6/8	4/8	84.0%	None
2024						oktas	oktas		
14th		15.4°C	15.4°C	2.0mph	0.3mph	7/8	8/8	86.0%	None
August						oktas	oktas		
2024									
16th		13.0°C	11.4°C	0.6mph	0.1mph	0/8	0/8	80.0%	None
September						oktas	oktas		
2024									

The Building inspection survey was carried out on 30th July 2024 emergence surveys on 30th July 2024, 14th August 2024 and 16th September 2024 in suitable weather conditions in accordance with Bat Conservation Trust (BCT) survey guidelines for building inspections.

An assessment of breeding birds was undertaken looking for historic or recent nests on 30th July 2024 and 14th August 2024 and 16th September 2024. No Evidence of breeding birds was recorded associated with the church or hall.

Limitations

The survey was carried out at an optimal time of year for a building assessment and emergence bat surveys according to the Bat Conservation Trust Bat Survey good practice guidelines 2023 and an optimal time window for some breeding bird surveys. While no biological survey can guarantee that all cues and signs of protected or notable species will be recorded, Alder Ecology UK Ltd feel confident that all key indicators for bats and breeding birds were noted during this survey window. The survey at the United Reformed Church, The Street, Holt, Wiltshire, England, BA14 6RS was not constrained as full access was available

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at the site for the building inspection and emergence survey. The roof inspection was undertaken from the ground and aided with the use of a drone.

Personnel

The survey and assessment on site was carried out and lead by Roger Martindale BA(Hons), MSc, CEnv, MCIEEM Principal Ecologist and Director of Alder Ecology UK Ltd who is a qualified and experienced professional Ecologist with over 25 years' experience, Chartered Environmentalist and full member of the Institute of Ecology and Environmental Management (CIEEM). Roger is an approved trainer for Bat Conservation Trust, Natural England and CIEEM and has recently ran the new Natural England Low Impact Bat Class licence training and a member of the technical review panel of the recently published 4th edition of the Bat survey guidelines. He currently holds a Natural England survey licence to legally undertake such assessments on site (licence number 2015-18372 CLS). During the surveys Roger was assisted by Rachel Whatton, Jon Hill and Max Martindale experienced bat surveyors who have worked as an assistant surveyor over a number of seasons.

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Photographic plates



Plate 1 Buildings being surveyed Holt URC church and church hall



Plate 2 church hall and church looking south west

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Plate 3 area a long eared bat was discovered by a volunteer bat worker in 2023



Plate 4 showing the balcony area which has evidence of scattered bat droppings

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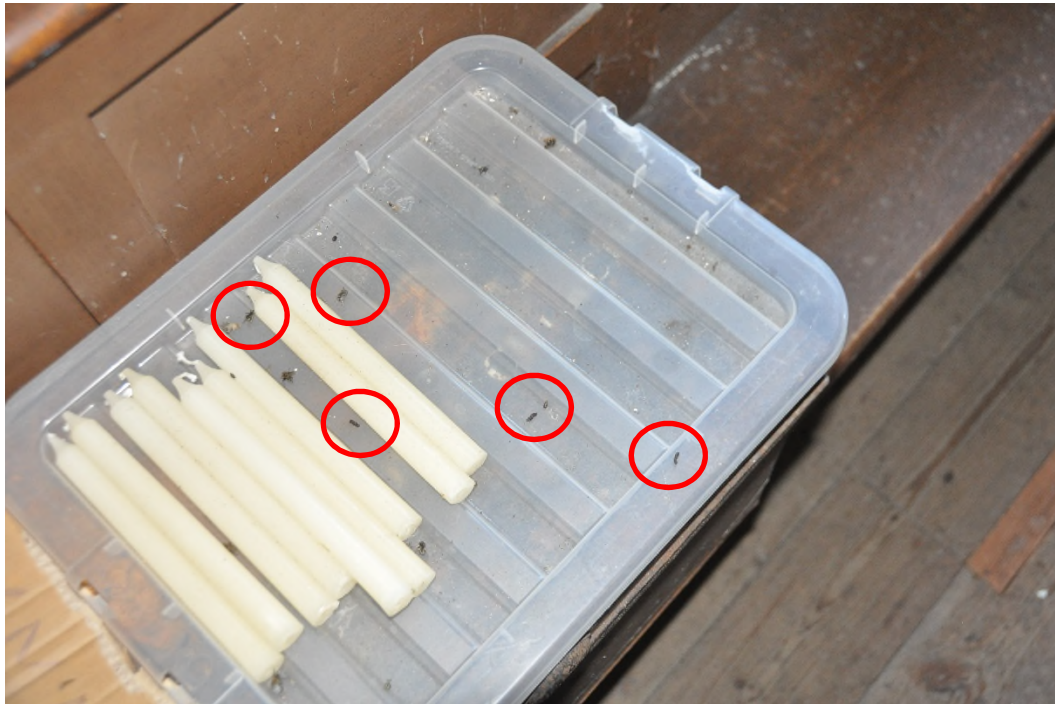


Plate 5 bat droppings discovered on the balcony



Plate 6 bat urine staining on interior lamp shade (white marking)

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Plate 7 slipped tiles on the roof potential for birds and bats, but no evidence of use



Plate 8 potential around the semi-circular tiled roof but no evidence of use

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Plate 9 area used to access the building by x2 peak count of long eared bats



Plate 10 roof area of the hall has some limited potential but no evidence of use

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Plate 11 cracked roof tiles but no evidence of use by bats



Plate 12 old Jackdaw nest in tower, birds had fledged before survey commenced

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Plate 13 light spill from the north-west end of the church adjacent to The Street (B3107)



Plate 14 light spill on the south west side not used by bats

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Plate 15 light trespass from off-site municipal lights on the lane south west of the site

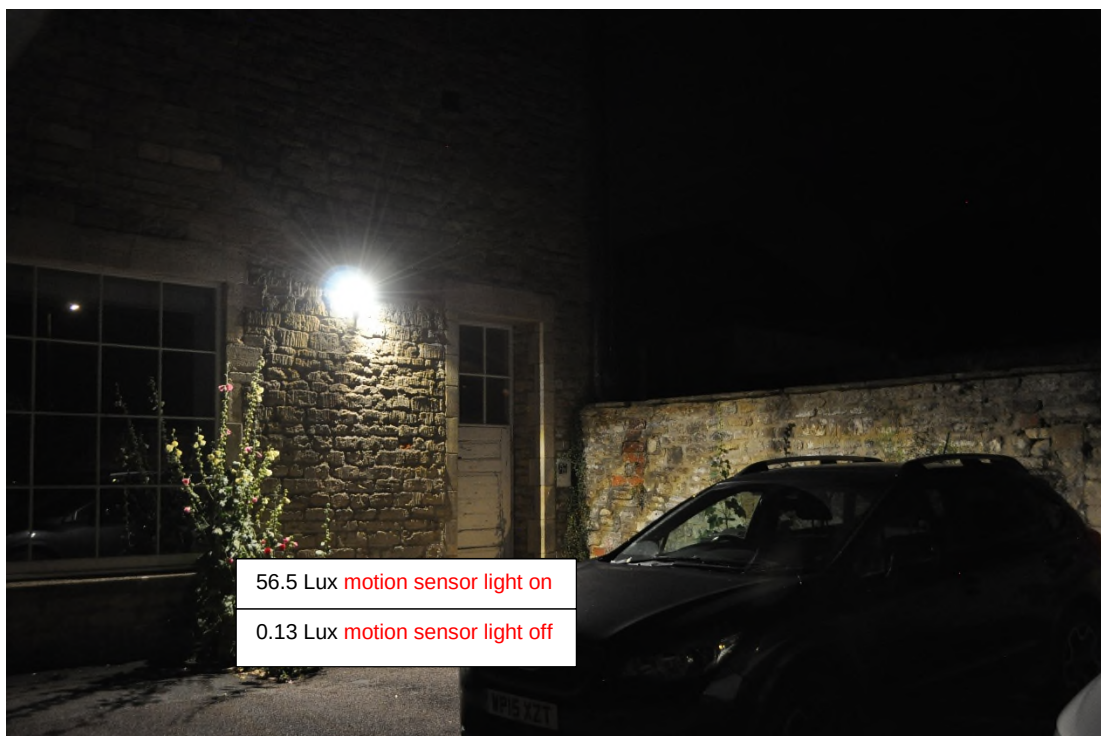


Plate 16 light spill around the entrance door to the hall

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Results Data search

The general wider landscape area around Holt has a moderate/high biomass of bat species and the site is within 5km of the Bath and Bradford on Avon SAC designated for bats.

Table 2 Bat records 2km radius BA14 6RS

Bat Species	Distance from site centre (km)
Bats	< 1km
38 records returned	> 2km
Brandt's bat	> 2km
1 record	
Brown Long eared	> 2km
2 records	
Common pipistrelle	> 2km
4 records	
Daubentons bat	> 2km
4 records	
Greater Horseshoe bat	> 2km
4 records	
Leislars Pipistrelle	> 2km
1 record	
Lesser Horseshoe bat	> 2km
7 records	
Natterer's bat	> 2km
1 record	
Noctule bat	> 2km
2 records	
Serotine bat	> 2km
5 records	
Soprano pipistrelle	> 2km
4 records	
Whiskered bat	> 2km
3 records	

The wider landscape area around the site has good farmland hedgerows, woodland, grassland, river and canal habitats for bats and the numbers of bat species recorded with 2km of the site is moderate although the number of records is low but shows the importance of the wider area for a wide range of bat species.

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Results

Building survey

Internal assessment

The internal space in the church is divided into ground floor with seating and a small accessible balcony see plate 4. There is no accessible roof void within the church via a hatch but missing plaster on the ceiling can provide access to the void area for bats. There was evidence of use of the church by bats on the balcony with bat droppings observed and recorded scattered around the balcony. There was also evidence of urine slashing/staining on the church benches, lighting and interior woodwork see plates 5 and 6. There was no obvious bat roost inside the church although a brown long eared bat was recorded inside the church in 2023 by a volunteer bat worker in the area shown in plate 3 (inside roosting) and plate 8 (outside to show position in context) but there is no entry and exit point in this location.

The results of the building assessment found recent evidence use by bats and the church building is a confirmed bat roost and is therefore legally protected. The entry and exit point appears to be behind the organ but this is not confirmed as it was not possible to get into this area.

The area was examined for breeding birds and the area had no evidence of recent of historic use by breeding bird species and no means for birds to access the internal space. Breeding birds (Jackdaws) have been recorded using the church tower on the north-west end of the building see plate 12 but the birds had already fledged prior to the surveys commencing.

An examination of the inside of the hall found no safely accessible roof void and that there was no evidence of use by birds or bats. This was confirmed during the emergence surveys.

External assessment

The church has several areas with potential for use by birds and bats throughout the building. There are slipped and crack tiles, gaps between tiles and areas under the eaves around the church see photographic plates for areas of potential. The hall on the other hand have very few opportunities for birds and bats as the roof was tightly fitted and well-sealed with the exception of one area shown in plate 11 which had two cracked tiles. Due to there being several areas with potential externally the church was subject to 3 emergence surveys and this also incorporated the hall building adjacent. However, it was soon evident when

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commencing the first survey that the high levels of light spill and light trespass would severely reduce the potential of a lot of the features with bat potential on site including the hall. Emergence surveys confirmed species composition and numbers.

Emergence survey

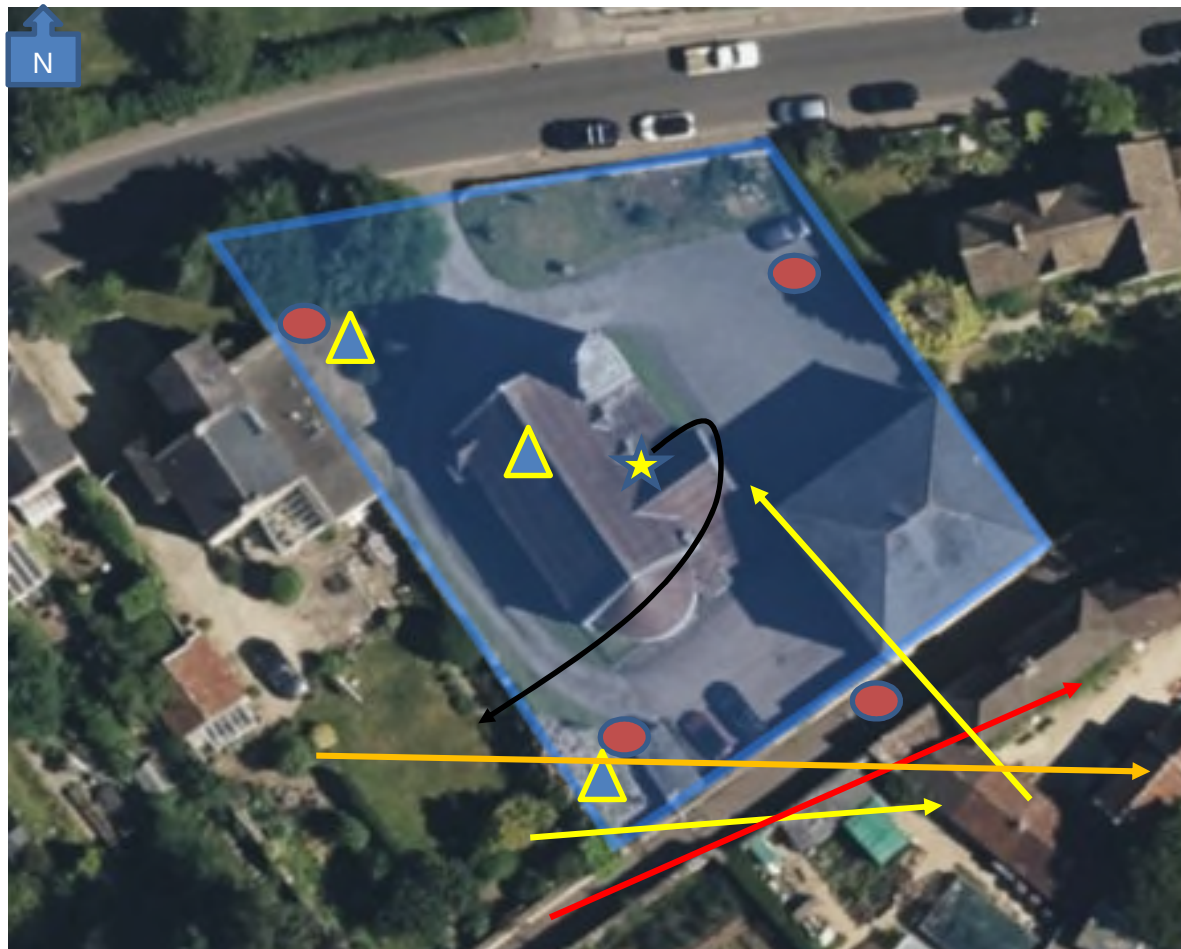
Emergence survey results

Survey 1- 30th July 2024 Sunset 2059hrs

During survey 1 the surveyors and equipment were located to observe all aspects of the buildings and boundary to ascertain if bats are leaving the site or entering the site during the survey. The first bat observed and recorded was a long eared bat emerging from the church north east side at 2135hrs and flying west flying very close to the church building to avoid areas of high lux levels. No other bats emerged from the church or the hall during the survey. Other bats recording during the survey were all off site to the south over The Courts gardens. The first bat recorded was a noctule bat at 2131hrs flying west to east followed by x2 common pipistrelle bats one flying west to east at 2145 and 2148hrs and another flying south east to north west directly through the site at 2207hrs but the motion sensor light of the hall was off and not triggered by the bat. A leisler's bat was recorded flying west to east towards the Courts.

A total of four species were recorded foraging and commuting in the area around the property see survey map 2 survey 1: common pip-yellow, noctule bat-red, long eared bat-black, leisler's bat-orange. One roost was recorded on site for x1 (peak count) long eared bat and the roost is a day roost in the church.

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Map 2 **Survey 1** bat survey results common pip yellow, noctule bat red, long eared bat black, leisler's bat orange. Surveyors red circle, Roost location yellow star. Passive detectors yellow triangle

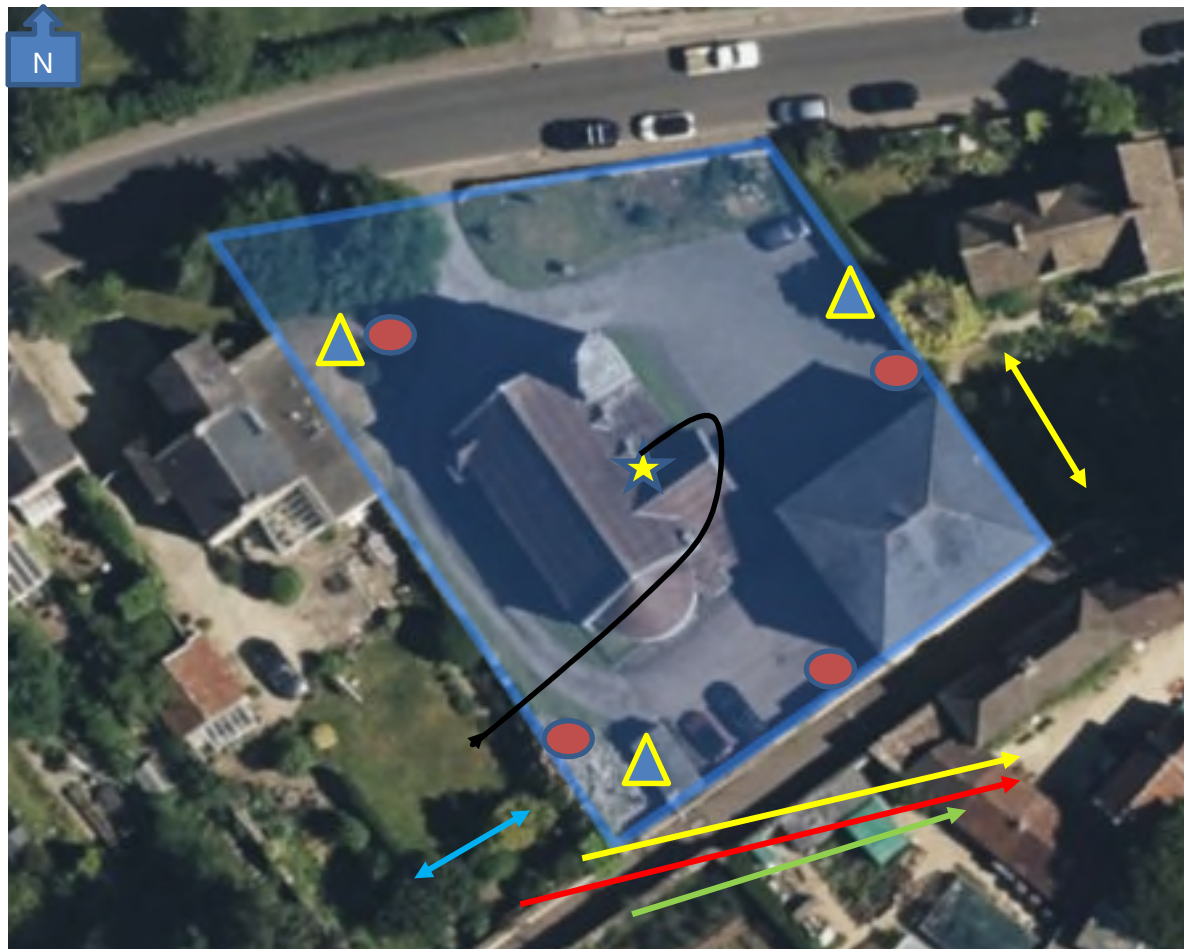
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Survey 2- 14th August 2024 Sunset 2032hrs

During survey 2 the surveyors and equipment were located to observe all aspects of the buildings. No bats emerged from the church hall during the survey. X2 long eared bats (peak count) emerged from the church in the same area as survey 1 and the roost is a day roost. The long eared bats both followed the same pattern as survey 1 by staying close to the building and flying off to the west. The first bat emerged at 2107hrs followed by the second bat at 2116hrs. One of the long eared bats was recorded returning to the roost area at 0345hrs using a passive detectors.

Four other species of bat were recorded foraging outside the boundary south of the site they are common pipistrelle, noctule bat and Myotis species more consistent with whiskered brandt's according to sonograms. There was also records of soprano pipistrelle foraging in the rear garden of the property to the west for approx. 30mins from 2050hrs to 2120hrs. There was also x2 common pipistrelle bats foraging in the rear garden of the property to the north east for approx. 25mins from 2105hrs until 2130hrs. There was other sporadic records of common pipistrelle but not observed during the remainder of the survey but activity tailed off after approximately 2 hours.

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Map 3 **Survey 2** bat survey results common pip yellow, noctule bat red, long eared bat black, leisler's bat orange, soprano pipistrelle-blue, whiskered/brandt's- green. Surveyors red circle, Roost location yellow star. Passive detectors yellow triangle

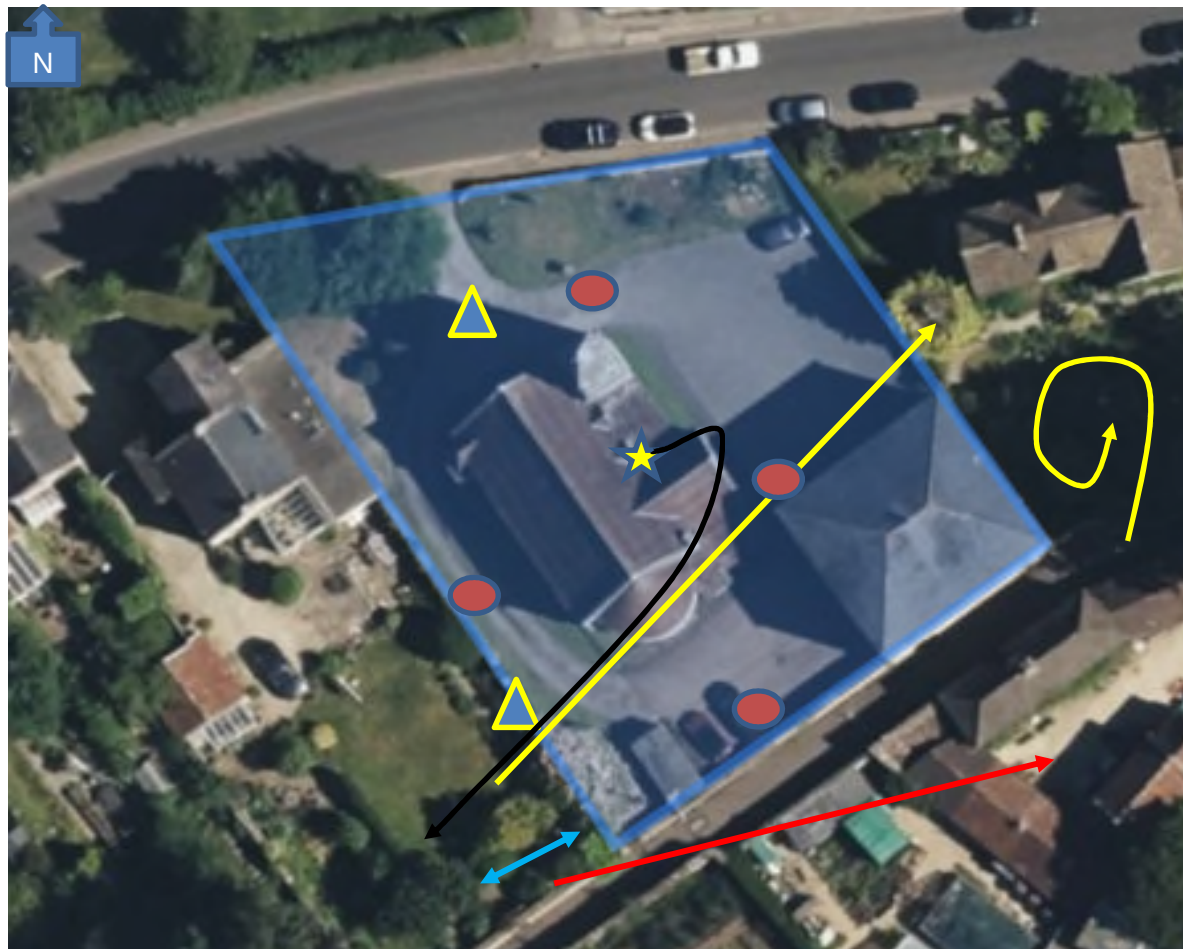
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Survey 3- 16th September 2024 Sunset 1920hrs

During survey 3 the surveyors and equipment were located to observe all aspects of the buildings. No bats emerged from the church hall during the survey. X1 (peak count) long eared bat emerged from the church at 1954hrs and followed the same pattern as surveys 1 and 2 staying close to the building and flying off to the west. The roost is a day roost within the church.

Three other species were recorded during the survey a noctule bat at 1947hrs flying west to east off site to the south. One common pipistrelle foraging in the rear garden of the property to the north east for approx. 10 mins from 1950hrs. One other common pipistrelle flew directly through the site west to east at 2050hrs and a soprano pipistrelle was again recorded foraging in the rear garden of the property to the west at 2008hrs until approx. 2035hrs. Again sporadic records of common pipistrelle were heard but not observed until approx. 2100hrs after which time activity was virtually nil.

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Map 4 **Survey 3** bat survey results common pip yellow, noctule bat red, long eared bat black, soprano pipistrelle-blue, Surveyors red circle, Roost location yellow star. Passive detectors yellow triangle

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Passive detector species composition results

30th July 2024 x2 nights

- Common pipistrelle
- Soprano pipistrelle
- Noctule bat
- Whiskered/brandts

6th August 2024 x2 nights

- Common pipistrelle
- Soprano pipistrelle
- Noctule bat
- Serotine bat
- Leislars bat
- Long eared bat

14th August 2024 x2nights

- Common pipistrelle
- Soprano pipistrelle
- Long eared bat
- Noctule bat
- Whiskered/brandts

15th September 2024 x2nights

- Common pipistrelle
- Noctule bat
- Leislars bat
- Long eared bat

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Ecological lighting assessment method

Method

Ecological Lux level baseline for the site has been assessed taking readings 1hr 30mins after sunset. The site has been assessed using standard industry equipment the Minolta T10 Luminance meter with all readings taken in a horizontal plane.

The lighting outputs have first been recorded and mapped with all the luminaries both on and off site considered during this process including offsite light spill and light trespass.

Illuminance levels throughout the site and at the boundary have been produced so that the current site baseline is understood. The Lux levels on the map below shows current levels including light trespass from adjacent areas.

Light trespass has been assessed and the line of sight from neighbouring properties has also been considered in terms of impact on the site.

The Society of Light & Lighting guidance documents all apply a common Environmental Zoning system, which is summarised below.

Zone E1

Areas with intrinsically dark landscapes: National Parks, areas of outstanding natural beauty (where roads are usually unlit) Rural Environmental

Zone E2

Areas of 'low district brightness': outer urban and rural residential areas (where roads are lit to residential road standard) Urban Environmental

Zone E3

Areas of 'middle district brightness': generally urban residential areas (where roads are lit to traffic standard) Urban Environmental

Zone E4

Areas of 'high district brightness': generally urban areas having mixed recreational and commercial land use with night-time activity

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Results of the ecological lighting assessment

The site has overall high light levels due to security lights and lights associated with entrances and parking. There is also light trespass at both the north and south of the site from municipal lights. The site would best sit in Zone E3 according to the results returned.



Map 5 showing site lux levels from ecological lighting assessment NOT A Full Professional lighting assessment. Roost location/exit point yellow star.

*Notes: Lux levels recorded on site 6th August 2024

Luminance meter *Lux level taken using Minolta T10 Luminance meter in horizontal plane.

Moon phase *6th August 2024 New moon 3% illuminated at 0/8 oktas cloud cover

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Conclusions

The survey concluded that the church is a confirmed bat roost for long eared bats and the roost is a day roost and the peak count is x2 bats. The roost entrance/exit is located on the north east side under the eaves. The survey also confirmed the church hall is not a bat roost at the time of survey. An ecological lighting assessment of the church and its surroundings found the lux levels to be high which may have reduced the potential use of features on site for bats and reduced the use of the site by foraging bats. A total of six species of bat were recorded during the survey foraging just outside the site boundary where light levels are lower. The species recorded included common and soprano pipistrelle, long eared bat, noctule bat, leislars bat, whiskered/Brandt's bat.

The assessment concludes that the building (church) at the time of survey is a confirmed bat roost and so the building has legal protection in that respect and that work on the structure has to take account of the presence of bats. Any work to the building may require a Natural England derogation licence if the roost is to be damaged, destroyed, or modified or the bats disturbed during the works. It may be possible to undertake the work at a time when bats are not in residence or in a way that does not impact the roost but this would only be known once the full extent of the works and methods to be used are fully known. The proposed plans may not impact the bat roost and so a derogation licence may not be required so long as the roost is not impacted or disturbed during the works or the roost can be retained in the same location with the same access point.

Evidence of nesting/breeding birds (Jackdaws) was recorded within the church tower on the north of the site and therefore consideration will be required during the works in relation to breeding birds if at a time when they are present. The birds had already fledged before the survey commenced but evidence of recent use this season was evident.

Any work to the building will not have an impact either directly or indirectly on the integrity of the Bradford on Avon and Bath SAC or the designatory features of the SAC, Greater Horseshoe, Lesser horseshoe or Bechsteins bats as none of these species were recorded during the survey periods or on the passive detectors which were left on site for 8 nights x3 detectors.

The general Wiltshire area has a high biomass of bats and therefore situations can change quickly with mobile species such as bats or birds, if opportunities arise particularly as the site

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is close to good quality habitat with a moderate species composition of bats recorded during the surveys. Therefore measures should be employed to prevent ingress by bats or birds into the church during any work to prevent conflict between scheduled works and roosting bats or breeding birds if the work is undertaken during the active season for bats April to October when they fly and forage and can utilise opportunistic roosts which have become available or breeding season for birds March to September.

Therefore provided that work is undertaken according to the recommendations below and under ecological guidance if required the likely significant effects can be minimised and risk reduced to be proportionate with the likelihood of the presence of bats or birds which is assessed to be high within the building according to the latest building inspection and emergence survey results.

Recommendations

The following recommendations are provided:

- Bats are a protected species and a material consideration in the planning process. If a bat roost is impacted by a proposed scheme and will be damaged, destroyed, modified or the bats disturbed, suitable and proportionate mitigation and or compensations will be required to maintain the favourable conservation status of bats in their natural range or not impact their ability to attain favourable conservation status in the future.
- The church Holt URC is a legally protected bat roost and remains legally protected whether bats are present or not according to British law.
- Any works to the building may require a derogation licence issued by Natural England but only after planning permission is secured.
- If the roost cannot be retained then a compensation roost per species will be required. Due to the low numbers encountered bat boxes may be considered suitable and proportionate by Natural England but the new roosts would need to be available for bats returning to the area in early spring of the following season after planning consent.
- Artificial bat boxes if used on the site should be erected at 2/3m in height south or west facing suitable for species recorded during the survey and not in areas of high lux levels.

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- Maintain building integrity up and until the point of works to avoid occupation by bats or birds particularly as a high species composition has been locally recorded during the surveys.
- If any bats are encountered on site works will immediately stop and the ecologist will be called for advice. The bat expert will attempt to rescue bats if in immediate danger and hold them in accordance with the Bat Workers Manual and in a suitable handling box for release in the evening or continued roosting.
- Builders and contractors are explicitly forbidden from handling bats or disturbing breeding birds.
- All nesting birds are protected while breeding or making a breeding attempt. Should breeding birds be discovered advice must be sought from a qualified ecologist.
- If breeding birds are discovered on site work will be delayed until the young birds have fledged (flown the nest). The area must be secured and birds left undisturbed.
- Do not illuminate the site of any compensation roost above baseline levels recorded on site and highlighted in this document or use short duration motion sensor lighting.

Ecologists contact details

Roger Martindale BA (Hons), MSc, CEnv, MCIEEM

Chartered Environmentalist

Director

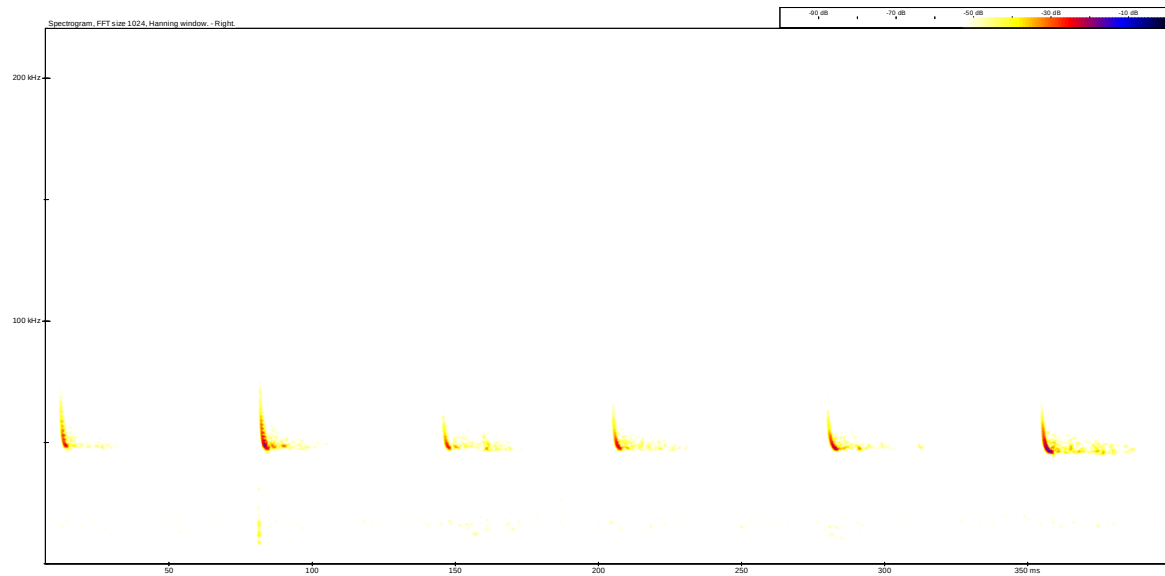
Direct Dial Tel: 01225 765604

Mobile: 07533 273939

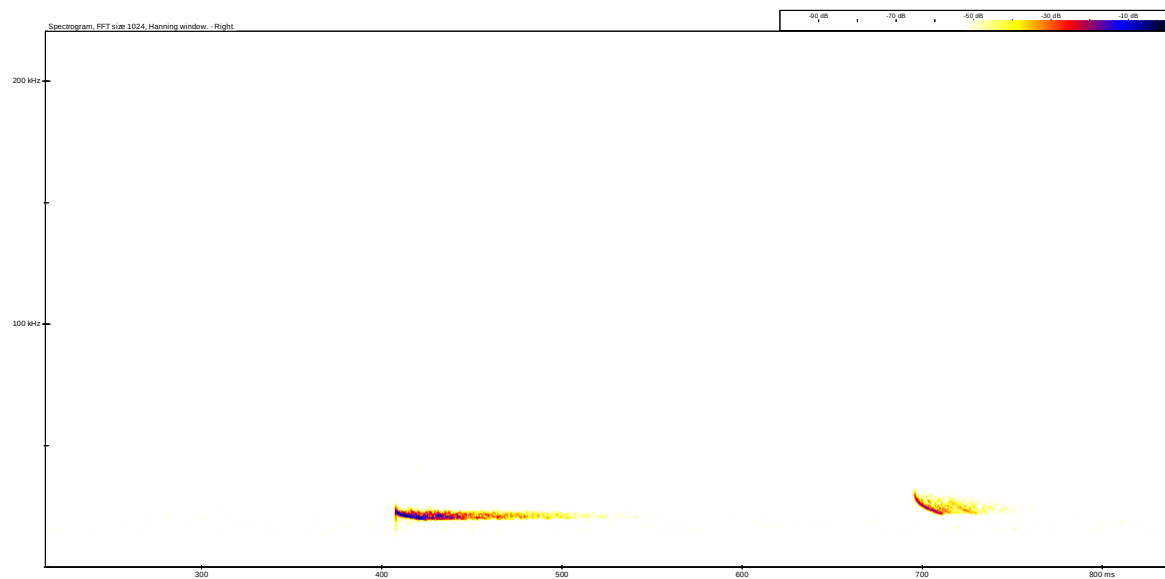
e-mail: rmartindale@btinternet.com

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Appendix 1 sonogram examples

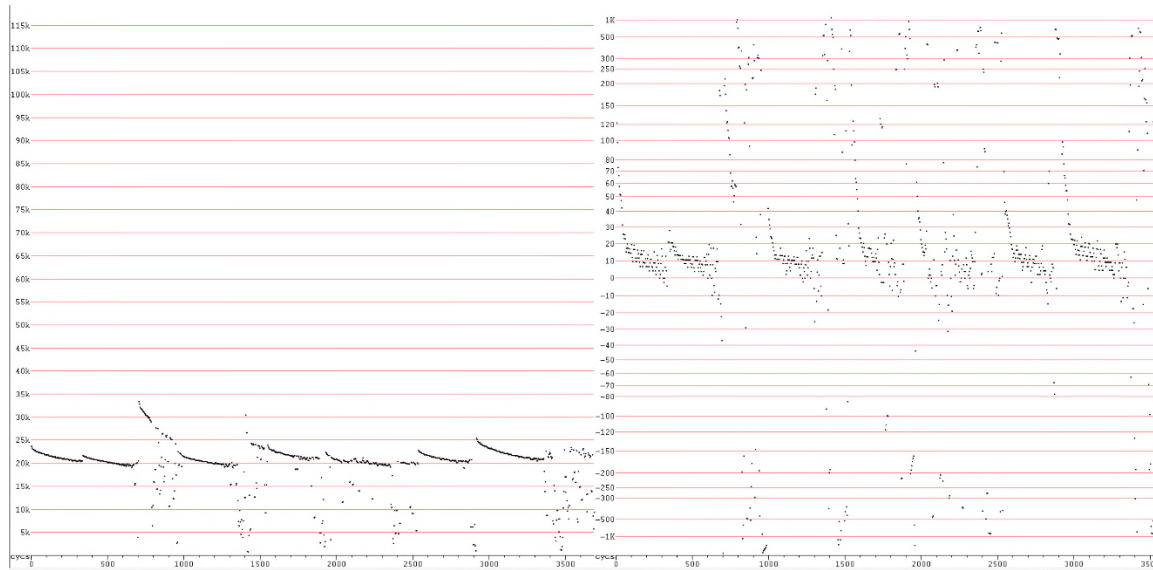


Common pipistrelle flying along west side

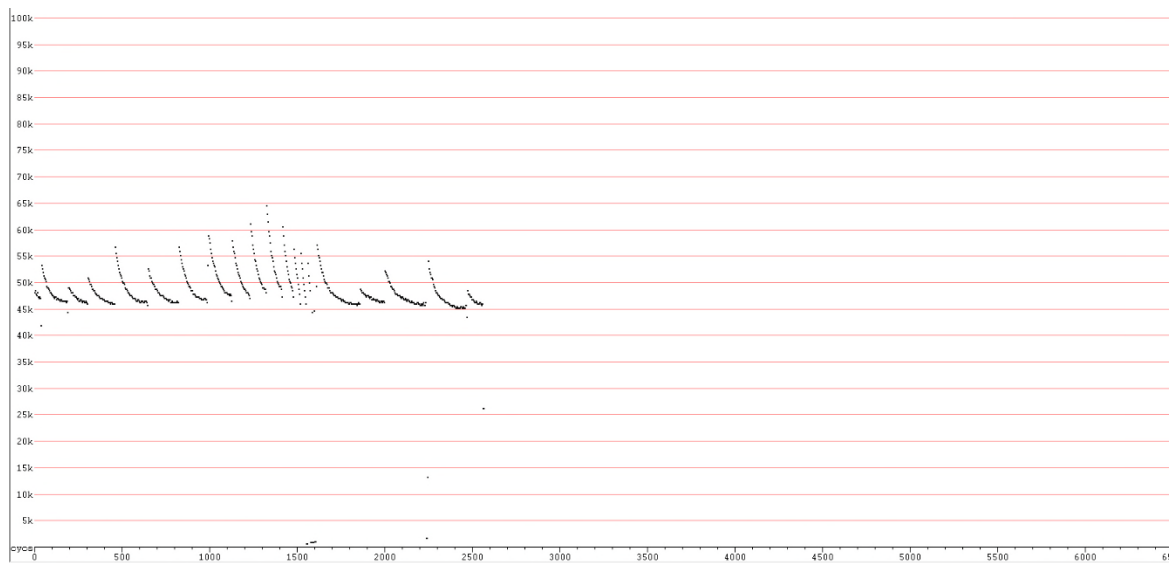


Noctule bat recorded just beyond site boundary to the south

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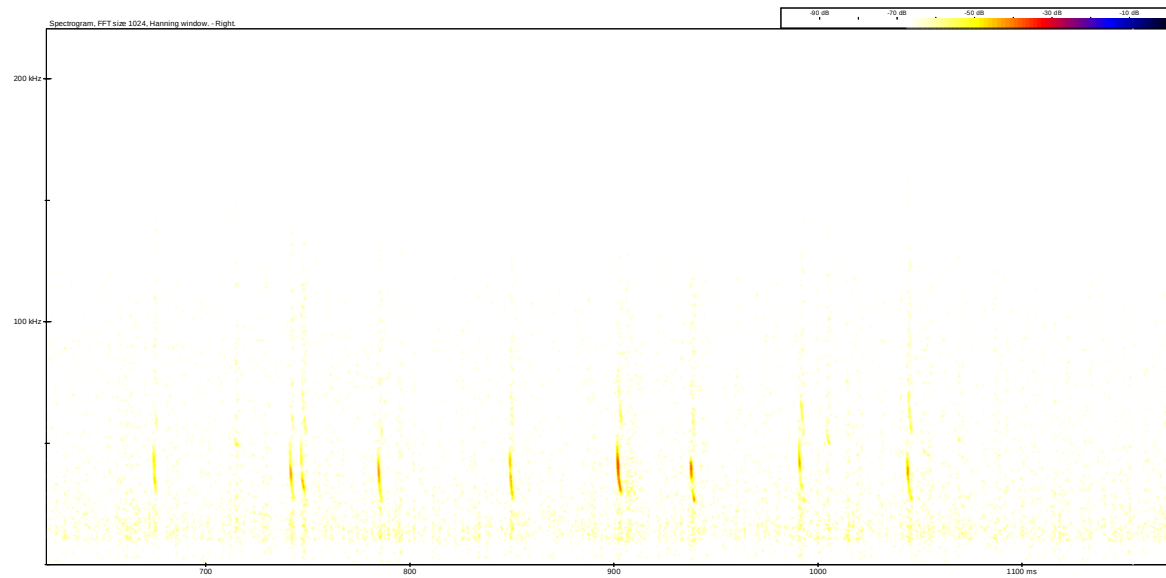


Leisler's bat recorded in August 2024 north east side of the site confirmed using slope analysis

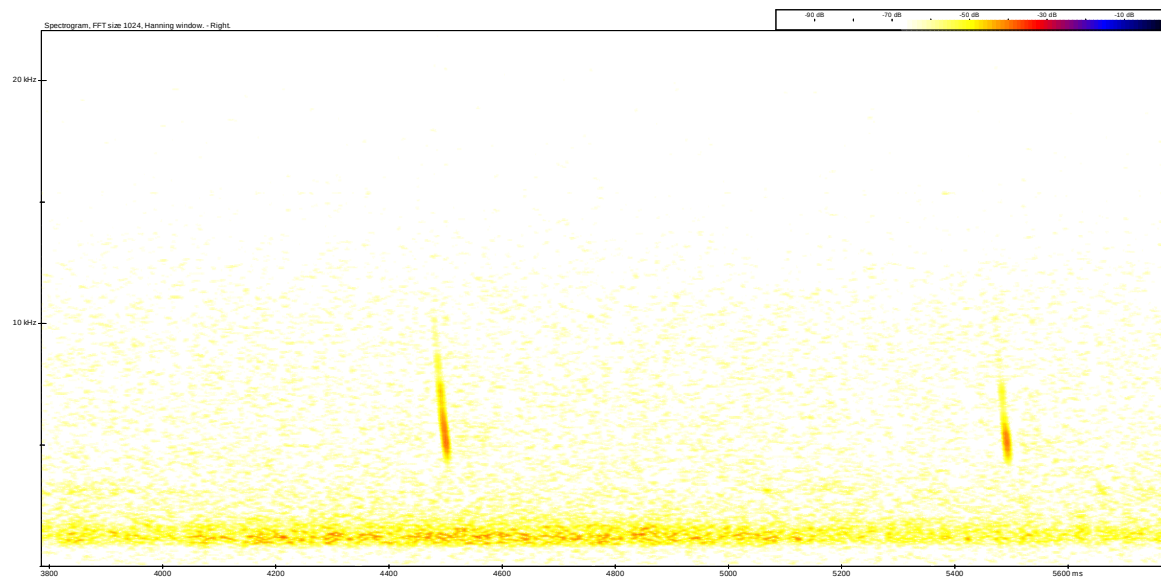


Common pipistrelle feeding buzz July 2024

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Long eared bat recorded emerging from the church August 2024



Unident Myotis consistent with whiskered/brandt's August 2024