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**Dusk emergence survey at
Lake Hill,
Bolholt,
Walshaw,
Bury,
BL8 1PU**

OS grid reference:
SD 7821 1184

Commissioned-by:
Sarah Sikorski

Survey Date: 19/8/20

Previous surveys: 24/6/16 (day), 12/7/16 (dusk), 29/9/16 (dawn), 18/10/10 (day - partial)

Report Date: 28/8/20

Previous reports: 22/7/16 (day and dusk), 7/10/16 (dawn), 31/10/19 (day - partial)

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Summary.

(This summary should be read in conjunction with the conclusions and recommendations.)

I previously undertook survey work of all buildings on this site in **2016**. One or two common pipistrelle bats were thought to roost in association with the main house roof.

This was subsequently re-roofed without further advice being sought with respect to bats. It is possible bat roosting places were impacted by this work.

In **2016** a further bat activity survey was recommended to accord with good practice. The accepted bat survey season was at an end and it was acknowledged that it might be more appropriate to delay it beyond 2017 if the development were likely to be delayed significantly. The intention was, and still is, to sell the property with planning consent.

In **October 2019** I reassessed the buildings at a day-time survey. It was already too late to do any bat activity survey work in **2019** and I pointed-out that by **2020**, after a delay of 4 years, a single up-date activity survey may not be sufficient, given that the full complement of surveys needed to accord with good practice had not been undertaken in **2016**.

At this dusk emergence survey bats were seen emerging, apparently from **6 different roosts**. From the largest, at the eaves of the main house, **at least 15 bats emerged**. This is indicative of a maternity colony roosting site. The other roosts contained between 1 and 3 bats. One of the roosts could potentially be of a male and be used for mating purposes. The other roosts were potentially being used by juvenile bats dispersing from the maternity colony roost. Three roosts were in the main house, where it appears they should be under no direct threat, and three were in the **single-storey block attached to the north of the main house**. **This area cannot be developed - or have remedial works done to the exterior - without impacting directly on the roosts.**

Roosts are legally protected irrespective of the planning process. A licence from Natural England will be needed to cover any work to this building. It appears Low Impact licencing will be appropriate, but additional bat activity survey work is likely to be necessary to double check there is no use of that building by a maternity colony. **No remedial work that will impact a roost should be done to the property without an appropriate licence in place.**

The Low Impact Licence requires proportionate compensation to be made for the loss of the roosts. To accord with the biodiversity objectives of the National Planning Policy Framework, the potential for bats to roost on site should be maintained or enhanced. **Natural England expect enhancement measures to be required by the local planning authority.** In this case most bats recorded on site were common pipistrelles, but soprano pipistrelle, brown long-eared and at least one *Myotis species have also been recorded on site.

Once planning consent has been granted the site can be registered with Natural England. The start date and time scale of the work will need to be known. A Low Impact licence is likely to be issued 14 days after submission of the application.

Whether or not planning consent is to be granted in advance of any additional survey work needed; **a Bat Method Statement** first needs to be produced outlining any timing restrictions and the mitigation, compensation and enhancement measures to be employed. It will also outline any necessary future work. The contractors will be required to work to the Method Statement. The bat consultant will need involvement on site at appropriate times during the development.

It appears the roosts in the main house can be retained as currently so long as no further work to roofs or fascias is undertaken. **However, any work done in a roof void adjacent to a maternity colony roost, at the time bats are present with dependent young, could cause damaging disturbance and constitute an offence.** Signage is required at loft entrances to alert contractors to do no work in the lofts nearby that will cause noise and/or vibration, without first seeking advice from a bat specialist on how to do the work without committing an offence. **The same limitation applies to work done within or outside the property close enough to the roost to cause disturbance.**

In anticipation of the licence application, and given that a bat roost or roosts may have been impacted when previous roof works were done, without the necessary licence in place to ensure compensation and enhancement was undertaken at the time, **bat boxes should now be put up in trees.** This recommendation was made in 2019 and was not acted-upon. **Proposed enhancement measures should take into account that at least two species besides pipistrelles have been recorded on the site.** It would be appropriate to put up at least 9 bat boxes in the trees on the site, as soon as possible, to create suitable roosting places for *Myotis* and brown long-eared bats as well as pipistrelles. The bat consultant will advise on appropriate boxes and be in attendance as a tree-climber puts them up.

Care needs to be taken with any proposed new lighting on the site, to ensure it doesn't illuminate known or potential roosting places directly, or impact in a negative way on bat flight lines to and from the roost/s and away from the site. All lighting should be appropriately positioned and shielded.

*'Myotis' bats – bats of the genus *Myotis*, which includes the Daubenton's (*Myotis daubentonii*), whiskered (*Myotis mystacinus*) Brandt's (*Myotis brandtii*) and Natterer's (*Myotis nattereri*).

Introduction.

In **2019** I was asked to re-assess the importance to bats of the single-storey extension to the north of the main house on this site. The older parts of the main house which adjoin it or are in very close proximity to it were also included. The day-time survey undertaken included the lofts.

The Summary of the report read:

"I undertook survey work here previously in 2016, comprising of a day-time survey, dusk emergence survey and dawn return-to-roost survey. The proposal now, as then, is to redevelop a large single-storey extension to the northern elevation, to create a two storey structure, tied-in to the main house. No roosting was confirmed in 2016, but a third bat activity survey (dusk emergence) was recommended during a subsequent maternity colony period (May to August inclusive).

*Two bats were seen behaving in a manner suggesting that they may roost at times in or near the older house roof. The client was advised to seek further advice from the bat consultant if any work was needed to this roof. Unfortunately this advice was over-looked and the older part of the house has since been re-roofed. As bat roosts have legal protection even if bats are absent at the time, I now urge the client to compensate as well as possible for the loss of roosting potential by putting-up bat boxes in trees near the lake. **The advice of the bat consultant should be sought with respect to this.** Putting-up of bat boxes now, would also make provision for bats in advance of the proposed development, which will inevitably also reduce roosting potential.*

The current roosting potential associated with the northern extension is at least moderate, possibly high, although some of the larger eaves gaps are more appropriate for use by birds. A bird was seen to enter one in 2016.

As [an] out-standing dusk emergence survey, recommended [in 2016] to be undertaken during the main maternity colony period of May to August inclusive [in a subsequent year], cannot now be undertaken until 2020 - 4 seasons after the previous survey work - it is debatable whether carrying-out a single survey is sufficient, after so long, to both complete and up-date the original bat activity survey work when the roosting potential is at least moderate. My professional opinion is that it isn't and there should be two more surveys undertaken.

The building should also be assessed for use by nesting birds, especially birds of conservation concern. In 2016 swifts were recorded on site and this species of conservation concern could make use of the verge defects in the northern extension.

As a horse chestnut tree discovered in 2016 to have a small cavity, is clearly deteriorating; if removal is planned, this must not be done without liaison with the bat consultant.

As roosting potential will inevitably be lost to the development, irrespective of the findings of future survey work; to accord with the biodiversity objectives of the National Planning Policy Framework, the opportunity should be taken to install integrated bat boxes in the new external structure. See Appendix 4. Swift boxes could also be installed. It is hoped the integrated bat boxes will already have been supplemented with bat boxes in trees.

Bear in mind that birds' nests are legally protected throughout the nesting process."

I was commissioned in **August 2020** to carry-out an up-date dusk emergence survey.

Having been involved with bat survey work for over 30 years and consultancy work for 25 years, it is always my objective to carry-out my work in a manner consistent with accepted Good Practice Guidelines and consistent with the code of practice of the CIEEM. I hold Natural England Class Licences CL21, 18 and 16. Amongst other things these cover me to apply for Low Impact Licences for clients and undertake bat survey work. I have a supplementary licence to photograph bats in roosts and a CL29 Barn Owl Class Licence. My credentials are expanded-upon in Appendix 1.

This report should be read in conjunction with the report of the 2019 survey.

Survey.

I returned on **19/8/20** to carry out the dusk emergence survey. I had 7 assistants with me.

We took up fixed positions to watch for bats leaving the building. See Fig 1 below. We all had the use of heterodyne "bat detectors" to help alert us to the presence of bats and to help us distinguish the species present, and synchronised watches to help us piece together the flight paths followed by bats.

Watches are checked as quickly as possible after sighting a bat and times are recorded to the second.

The usual aim of the survey is to position surveyors so that even if areas of roof cannot be seen directly, the building is covered well enough that, by a process of elimination, it can be worked-out whether or not bats emerged or arrived from off-site.

In addition I placed Anabat SD1 x 2, Anabat Express, EM3 and EM3+ detectors around the building. See Fig 1 below. These record bat calls for analysis on computer later. They are extra tools for helping to confirm the species present.



Fig. 1.

Key: Approximate locations of surveyors shown by red stars, numbered 1 to 8;
approximate locations of recording devices shown by yellow crosses -
A1 = Anabat 1, A2 = Anabat 2, AE = Anabat Express.

Incidentally I also positioned an Anabat Swift detector as close to the northern shore of the lake as it was possible to access due to the density of vegetation on the bank. The battery failed an hour after sunset.

Findings.

The main results are shown in Table 1 below:

Table 1. Summary of surveys and significant findings

Date	Survey type	Sunset / sunrise time	Time of survey	Conditions °C/weather	Comments
19/8/20	dusk	20.28	20.10 to 22.00	18.9°C at start , cloudy, still 19°C at end	Bats emerged from multiple places, with the maximum number from one roosting site at least 15. See Figure 2, Table 2 and Plates 1 to 10. After emergence from roost B, three bats remained in the area flying in-view together. Some social calls were heard. All emerging bats were thought to be common pipistrelles though a few soprano pipistrelles were recorded, a non-pipistrelle species was recorded at 20.57 near surveyor 4 and an apparent brown long-eared was recorded on EM3+ at 21.56 and 21.59. See Appendix 1. A 'Myotis' species was recorded by the lake at 21.12.
29/9/16 single-storey extension only, plus tree	dawn	07.04	05.15 - 07.05	13.5°C at end. Cloudy, slight breeze.	Only common pipistrelles recorded, with some social calls, especially to the rear of the building. No bats returned to roost in the building being surveyed but a bat was flying-up and back at the eaves of the main house at 06.33 suggesting it was considering entering to roost. On this occasion it didn't. A bat was also seen circling a chimney of the main house at 06.23. The last bat was recorded at 06.36.

					Incidentally, the recording device to the south of the house recorded an enormous amount of activity by one to two bats.
12/7/16 whole property, plus tree	dusk	21.34	21.15 - 23.00	12.8°C at start , some cloud, still 12.5°C at end	No bats thought to emerge. Almost constant feeding activity by the common pipistrelle from 21.43. 2 to 3 bats at times. Some social calls recorded. A bird entered the eaves of the main single-storey element during the survey.

Survey type key: **dusk** = dusk emergence survey, **dawn** = dawn re-entry survey



Fig. 2.

Key: Approximate locations of roosts indicated by letters A-F. See Table 2.

Table 2. Summary of roosts found

Area: See Fig. 1	Number of bats seen to emerge/enter	Comments 19/8/20, sunset 20.28
A	at least 15 out	Above window, from 20.45.
B	3 out	From gap in verge, 4 th tile up, from 20.55.
C	2 out	From soffit at 20.53 and 20.56.
D	1 out	From gap in verge at 20.50
E	2 out, 3 in	From 20.50. Only apparent entry place available is an air-vent, thought previously unlikely to be suitable for roosting. Bat seemed to be considering entering at this location at a previous survey.
F	2 out	From 20.42. Thought unlikely due to recent re-roofing but Plate 10 shows an apparent gap which fits with where bats were thought to emerge. A concern is that theroof is now probably lined with breathable membrane, which can cause bats' to become trapped when they can't extricate their claws from it.



Plates 1 and 2. Roost A, south-facing



Plates 3 and 4. Roost B, south-facing (south-west corner)



Plates 5 and 6. Roosts C and D, east-facing



Plates 7 and 8. Roost E, north-facing



Plates 9 and 10. Roost F

Conclusions/Discussion

It seems there is a maternity colony of the pipistrelle bat here. At this time of year such colonies are disbanding. The adult females leave first then the juveniles disperse. It is likely Roost A is the main roost and juveniles have been making use of other roosting opportunities as they leave the main roost.

However adult males are in breeding condition at this time of year and are territorial around their roost. Once females have left the maternity roost, they visit male bats in small numbers to mate. Given the social activity around roost B and the fact the bats were clearly adult, competent flyers, it is possible this is a mating/harem roost.

The proposed work cannot be done without directly impacting roosts B, C and D. Roosts are legally protected irrespective of the planning process. A licence from Natural England will be needed to cover this work. It appears Low Impact licencing will be appropriate, but additional bat activity survey work is likely to be necessary to double check there is no use of the building by a maternity colony. No remedial work should be done to the property without an appropriate licence in place.

The Low Impact Licence requires proportionate compensation to be made for the loss of the roosts. To accord with the biodiversity objectives of the National Planning Policy Framework, the potential for bats to roost on site should be maintained or enhanced. Natural England generally expect enhancement measures to be required by the local planning authority.

Once planning consent has been granted the site can be registered with Natural England. The start date and time scale of the work will need to be known. The licence is likely to be issued 14 days after submission of the application.

Whether or not planning consent is to be granted in advance of any additional survey work needed, a Bat Method Statement first needs to be produced outlining any timing restrictions and the mitigation, compensation and enhancement measures to be employed. It will also outline any necessary future bat survey work necessary. The contractors will be required to work to the Method Statement. The bat consultant will need involvement on site at appropriate times during the development.

It appears the other roosts can be retained as currently so long as no further work to roofs or fascias is undertaken. However, any work done inside a roof void adjacent to a maternity colony roost, at the time bats are present with dependent young, could cause damaging disturbance and constitute an offence. Signage is required at loft entrances to alert contractors to do no work in the lofts nearby that will cause noise and/or vibration, without first seeking advice from a bat specialist on how to do the work without committing an offence. The same limitation applies to work done within or outside the property close enough to the roost to cause disturbance.

In anticipation of the licence application, and given that a bat roost or roosts may have been impacted when previous roof works were done, without the necessary licence in place to ensure compensation and enhancement was undertaken at the time, bat boxes should now be put up in trees. This recommendation was made in 2019 and not acted-upon. Proposed enhancement measures should take into account that at least two species besides pipistrelles have been recorded on the site.

Care needs to be taken with any proposed new lighting on the site, to ensure it doesn't illuminate known or potential roosting places directly, or impact in a negative way on bat flight lines to and from the roost/s and away from the site. All lighting should be appropriately positioned and shielded.

Recommendations.

These recommendations should be read in conjunction with the conclusions above.

Put up at least 9 bats boxes in the trees on the site, as soon as possible, to create suitable roosting places for Myotis and brown long-eared bats as well as pipistrelles. The bat consultant will advise on appropriate boxes and be in attendance as a tree-climber puts them up.

Have a Bat Method Statement written to cover all potential impacts on bat roosts.

Do no work to the single-storey garage block without an appropriate licence from Natural England. Further survey work is likely to be necessary.

Do no work to the main house - internally or externally without seeking further advice from the bat consultant.

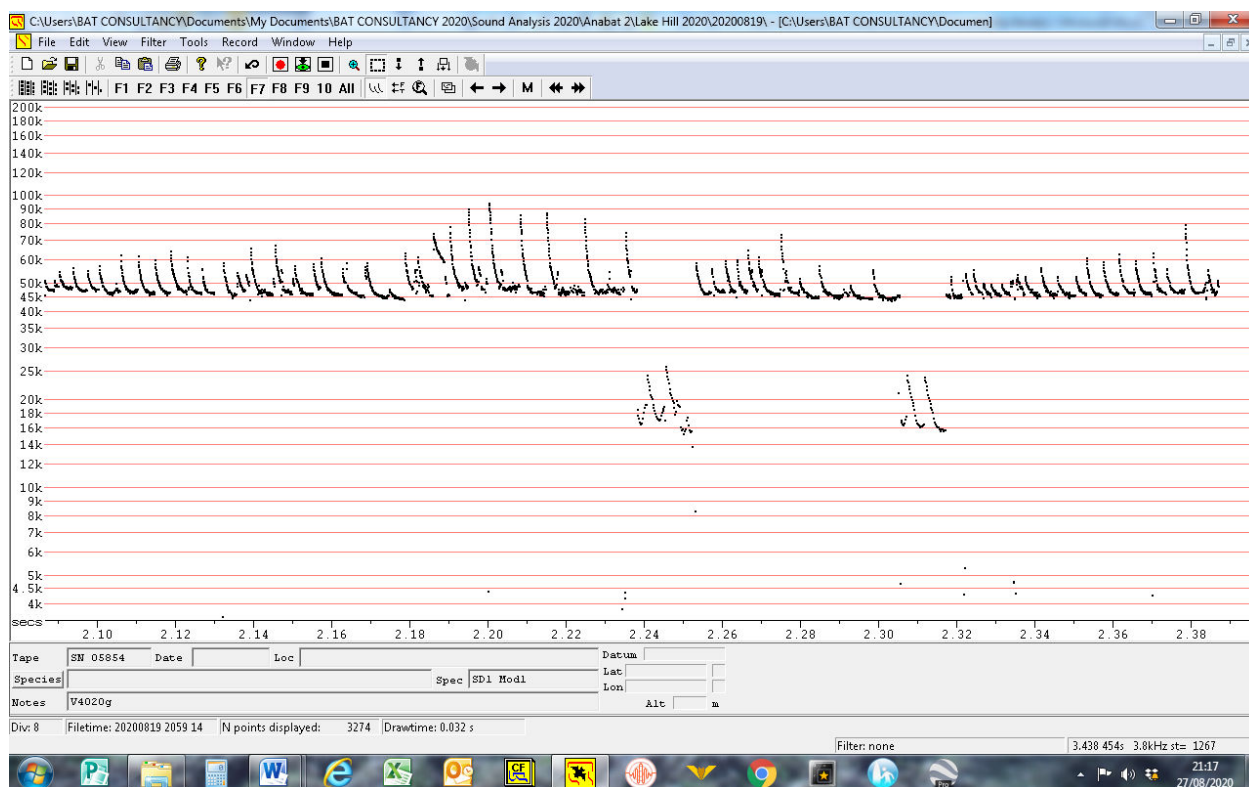
Install signage at loft hatches in the man house to alert future contractors to seek advice from a bat specialist before doing any work in or near the loft.

Plan future lighting around the building to take into account the needs of bats.

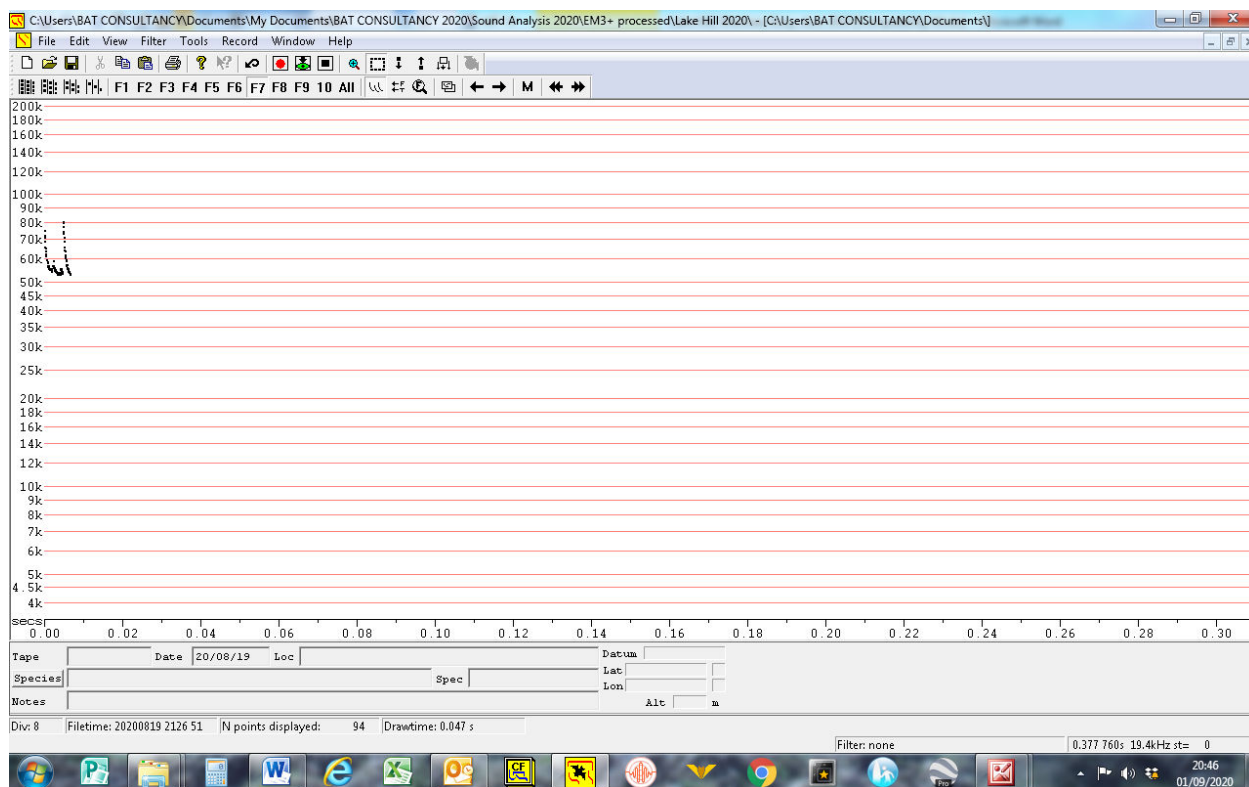
References.

1. Bat Conservation Trust. (2018). Guidance Note 8/18: Bats and Artificial Lighting in the UK.

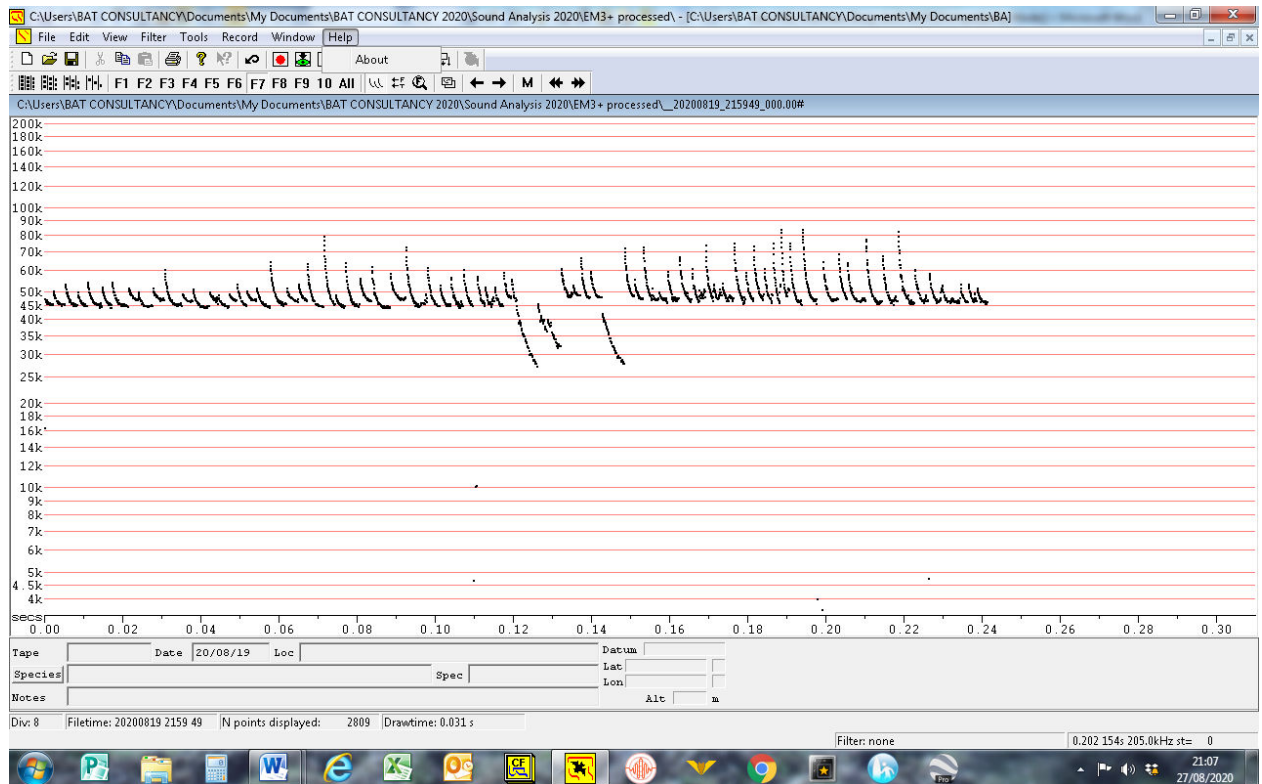
Appendix 1 - Example sonograms recorded at dusk survey



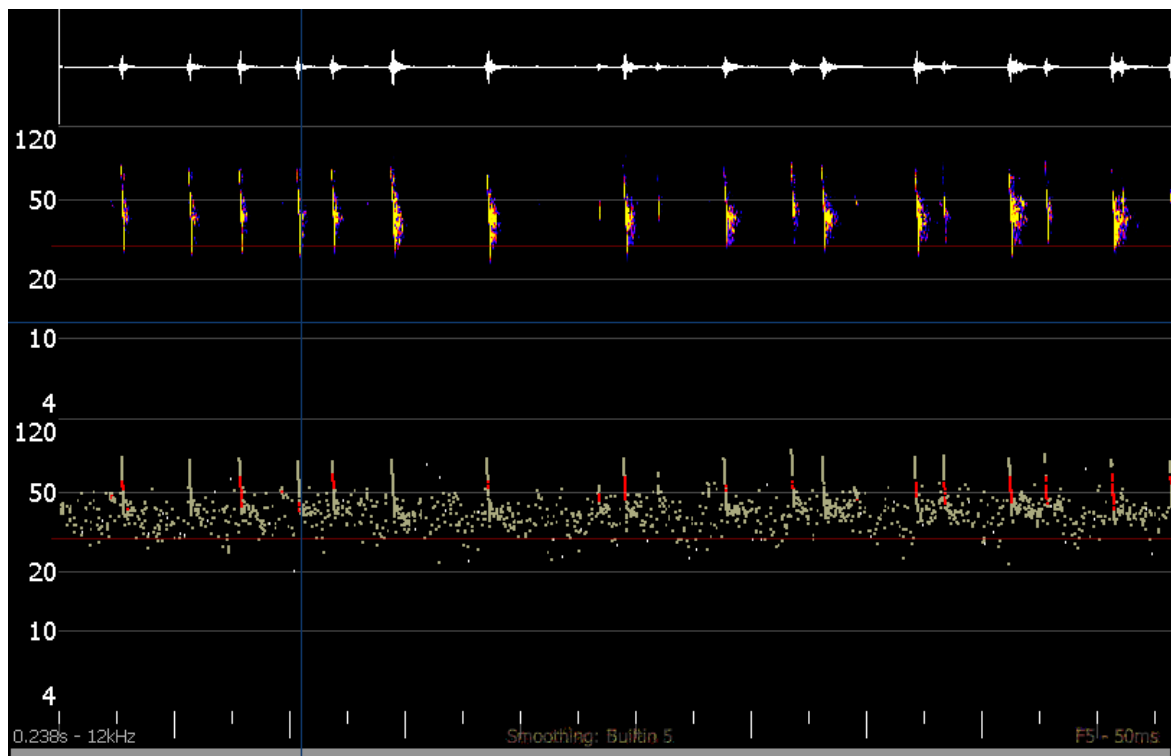
Common pipistrelle bats plus social-calls, and possible soprano pipistrelle, at 20.50 on A2



Soprano pipistrelle recorded at 21.26 on EM3+



Common pipistrelles and brown long-eared at 21.59 on EM3+



*Myotis bat by lake at 21.12