Bat and Barn Owl Survey and Report

STONE BUILDING, CHATSWORTH FARM, LASK EDGE

Jonathan Ayres CEnv MCIEEM FLS | 29/06/2017

Bat and Barn Owl Report, Stone Building, Chatsworth Farm

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Executive summary

Rationale

This survey and report has been undertaken at the request of the applicant in support of a planning application for conversion of a stone outbuilding at Chatsworth Farm, Lask Edge, Staffordshire.

The building was subject to a thorough internal and external examination, to look for the presence of bats and barn owls, the entirety of the building and roof space was surveyed, no trees suitable for bat roosting were identified within the immediate vicinity, mature sycamore trees occur within garden of the main house however these will be unaffected by the works. A dusk emergence survey was undertaken on the evening of the 22nd June 2017.

Planning

The applicant intends to submit a planning application for the conversion of the stone building into a dwelling.

The proposed works will likely involve internal alterations and external works such as installation of new doors and windows and roof repairs/insertion of rooflights.

Survey Results

The building inspection surveys of the stone building and lean-to building found no evidence of bats or their field signs such as droppings or feeding remains on any of the external faces of the buildings or within the roof spaces or in any cavities. Two individual bat droppings were recorded on building materials stored in the open lean-to area, these were not associated with any roost space and are likely to be from foraging bats. No evidence of barn owl nesting or roosting was recorded at any stage of the survey.

The dusk emergence bat survey did not record bats emerging from the stone building or lean-to at any point during the survey.

Common pipistrelle, soprano pipistrelle and *Myotis* bats were recorded feeding and commuting over the main yard, the house and garden areas and around mature trees in the front garden. Survey and anecdotal evidence suggests that a small day roost of pipistrelle bats is likely to be located in the western side of the main detached house, this will not be impacted by the proposed works.

The predicted impact on local colonies of bats as a result of the proposed works is deemed to be low, as no evidence of bat presence was detected within the proposed buildings for conversion. The results of the dusk emergence survey confirm that no roosting bats are currently using the stone building or lean-to, overall the farm site contains a number of alternative structures which may provide more suitable roosting places for bats such as the main farmhouse (which is heated) and mature trees in the main garden.

The proposed works may therefore be undertaken without the need for an EPSL issued by Natural England.

1. Introduction

This report has been re-produced in accordance with the standard template outlined in BCT 2016 guidelines. Jonathan Ayres CEnv MCIEEM FLS an experienced and licenced bat and barn owl ecologist was commissioned by the applicant to undertake a daytime inspection and evening dusk emergence bat surveys on stone building and lean-to at Chatsworth Farm, Lask Edge, Staffordshire, at OS Grid Ref: SJ91569769. A daytime external inspection of the buildings was carried out on the 22/07/2017 followed by an evening emergence and activity survey.

1.1 Site Description

The building is located in a rural location in the village of Lask Edge in Staffordshire, accessed by a gravel track to the east of Lask Edge Road. The building is located within a complex of agricultural buildings adjacent to the main detached farmhouse and the wider landscape is dominated by improved grassland used for cattle grazing. The survey site consisted of the following:

- a detached stone building,
- steel framed lean-to area.

The building is a stone built former shippen building with cow stall dividers, the southern section is single storey whilst the northern section has an upper floor hayloft area. Both parts of the building have a pitched tiled roof.

The surrounding habitats within the immediate area (gardens, grassland, hedgerow and scattered trees) are likely to be of local value to bat species and provide connectivity to the wider landscape, none of these habitats will be impacted by the proposed works.

1.2 Proposed Works

At this stage, no planning application has been submitted, however the proposed works will involve internal alterations, installation of new doors and windows, the roof is in good condition and therefore large-scale roof removal is unlikely to be needed. Some roof-lights are proposed.

1.3 Aims of Survey

To determine the presence or likely absence of bat species within the buildings and to evaluate the use of the property by bats, to evaluate any roost status and assess the habitats within the site and their importance on a local level to bat species; should any roosts be found to provide advice on further surveys and any licencing or mitigation works that may be necessary.

To determine the presence or historical usage of the buildings by barn owls.

All surveys have been undertaken in accordance with the methods outlined in the BCT 2016 guidelines and where necessary adapted to the site-specific requirements.

2. Methods

2.1 Summary of survey methods

The aims of the survey and this report are to determine the ecological value of the site in relation to protected species and the likely impact from any proposed development works upon these species, in particular bats and nesting birds.

2.2 Pre-survey data search

A number of freely available ecological records and reports were examined for evidence of historical bat records.

2.3 Surveyor information

The survey was undertaken by Jonathan Ayres an experienced ecologist and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) – and holder of Natural England licences **2015-11635-CLS-CLS Class Licence in Bat Survey Level 4 (CL20)** and **Barn Owl Survey Licence CL29/00085.**

2.4 Field surveys

2.4.1 Habitat survey/Daytime Bat Survey

An external and internal inspection of the buildings was undertaken on the 22/06/2017 – this survey involved a detailed examination of all external surfaces of the building and lean-to to look for any evidence of bat usage such as droppings, rub marks and staining. An assessment of the condition and suitability of the building for bats was also made in order to investigate any suitable access and egress points such as under eaves, mortar joints, loose tiles or vents. The visual survey was enabled using ladders to gain access and high powered torches, endoscopes and binoculars where necessary.

The internal inspection of the building involved a detailed examination of all interior spaces that may be used by bats in particular wall cavities, behind felt, looking for warm dark areas, checking for droppings on beams and flooring, corpses, feeding remains and listening for any chattering bats. A digital endoscope was used to investigate behind panels and into cavities and a high powered torch was used to enhance darker areas.

2.4.2 Activity surveys (Emergence Survey)

Given the rural location of the property and proximity to habitat features such as the mature trees and hedgerows, it was determined that an initial evening emergence survey would be sufficient to determine the level of bat usage and likelihood of bat roosting.

Surveyors were on site half an hour before sunset and continued until 1h50mins after sunset. Bat detectors were used to record bat calls for later analysis, detectors used were the ANABAT SD2 and the Wildlife Acoustics EM3 and Echometer Touch.

Surveyors were positioned so that all of the building could be observed and there were no blind spots so that any emerging bats would not be missed.

Sunset was at 21:41 on the 22/07/2017, the cloud cover was 40% and wind low, the starting temperature for the survey was 14.7C and the temperature at the end of the survey (23:30) was 12.5C.

As bats were recorded during the survey, it was determined that conditions were appropriate to undertake the survey and the results are therefore deemed valid.

2.4.3 Static Detector Survey

Static bat detectors were set up at the rear of the main farmhouse (which is to the west of the stone building) and an Anabat SD2 was placed within the stone building prior to sunset and during the emergence survey.

2.4.4 Data analysis

Once completed all calls recorded during the survey were analysed using Analookw and Petersson Batsound software. From these sonograms, the species of bat and an indication of bat activity were determined i.e. social calls, commuting activity, foraging/feeding passes.

2.4.5 Barn Owl Survey

Both buildings were inspected for signs of usage by barn owls such as feeding remains, owl pellets and whitewash from droppings. Evidence of usage by other birds such as swallow was also surveyed for.

3. Results

3.1 Pre-survey data search

Online resources such as Google and MAGIC.gov were used to undertake a basic records search to look for any evidence of known bat records within 1km of the site.

3.1.1 Designated sites

The property is not located within or adjacent to any statutory or non-statutory designated wildlife sites.

3.1.2 Protected species

Given the lack of previous survey works undertaken at the site it was not considered necessary to undertake a full desk top search with the local records office.

The proposed conversion works will be undertaken within the confines of the existing building and therefore no significant natural habitats will be directly affected.

The owner has stated that bats are regularly seen around the main detached house and gardens and that a roost is considered likely to be located on the western side of the main house.

No European Protected Species Licences have been issued by Natural England for bats within 1km of the site.

3.2 Field surveys

No previous ecological surveys have been undertaken on the property.

3.2.1 Daytime Bat Survey

Building Survey

The site is located in a rural location and surrounded by grazing land. These surveys have been undertaken on the detached stone barn building and the adjacent lean-to steel framed building located on the eastern side of the main stone barn.

The stone building is located across the access driveway/yard to the east of the main farmhouse, and the building is currently empty. Windows are missing from the majority of openings and bats may therefore gain access via these areas. The roof is in relatively good condition with no missing or slipped tiles, some gaps occur under ridge tiles which may provide roosting areas for bats. The eaves of the building are well sealed with mortar with no gaps visible during surveys, the age and construction means that the building lacks a cavity wall or soffits. Internally the ground floor provides no suitable roosting space and no evidence of bat or barn owl usage was recorded. The upper floor is well sealed from the elements with bitumen roofing felt visible on the underside of the tiles, no droppings were recorded on the floor of the hayloft or on any internal spaces and no signs of barn owl usage was recorded. A number of large openings within the stonework are visible on the eastern face of the building under the lean-to; each one was systematically inspected with the endoscope and no evidence of bat usage was recorded.

The lean-to which abuts the eastern side of the stone building is open on its northern side and used as a workshop and storage area. It contains no suitable roosting areas for bats, but its open nature means that bats may enter to forage on any insects that may seek shelter within, two individual bat droppings were recorded on stored building materials within the lean-to, likely to be from a foraging bat.

Photograph	Description
	The western side of the stone building adjacent to the driveway. A number of window openings and gaps in the stonework provide suitable entry/exit points for bats. The roof is in good condition with no missing or slipped tiles. Brickwork around the roofline is well sealed with mortar reducing the likelihood of bats to roost within the wall space.
	The southern side of the buildings with an opening out on to the gravel track. The well-sealed eave can clearly be seen in this photograph and the stonework is in good condition with no obvious gaps on this side.
	The eastern side of the stone building under the lean-to showing numerous large openings in the stonework, each of which was investigated with a high-powered torch and endoscope to look for any evidence of bat roosting.

	Single bat dropping recorded on stored pipe material in open plan area of lean-to, from size and shape likely pipistrelle dropping from a foraging bat. A number of winged insects were observed flying inside the lean-to area, possibly pushed in by air currents.
	The internal ground floor area of the stone building, showing the underside of the hayloft floor joists, cow stall divider and rendered walls.
	The southern single storey section of the building showing relatively recent roof works, where synthetic roofing materials have been used to line the underside of the roof.

	The internal space of the upper floor (hayloft) showing truss construction and bituminous roofing felt. No evidence of bats or barn owl usage was recorded within this room.
	The northern side of the building showing large hayloft opening and the open-fronted lean-to next to the main building.

No evidence of bat use or their field signs was observed during the detailed external and internal inspections of the property.

3.2.2 Activity surveys

During the activity survey bats were first recorded over the track to the front of the main farmhouse, flying around the mature trees and then into the site, flying over the yard into the rear garden of the main farmhouse and west over the boundary. The first bat recorded was a single common pipistrelle. After this a similar pattern of behaviour was recorded with bats flying around the site, mainly over the garden areas and around the mature trees and the main farmhouse. Some bats were recorded high over the outbuildings but at no point were any bats recorded emerging from or entering into either of the buildings; the stone barn proposed for re-development, or the lean-to next to it.

No calls were recorded on the Anabat SD2 left within the stone building during the survey.

No bats were recorded emerging from any part of the building and no bats were recorded commuting or foraging within the site.

3.2.3 Data analysis

Analysis of the recorded data confirmed the presence of small numbers of common pipistrelle, soprano pipistrelle and *Myotis* species most likely to be from a whiskered or Brandt's bat foraging over the site and over the rear garden area of the main farmhouse.

3.2.4 Species evaluation and analysis of results

The surveys did not identify any bats emerging from the either of the surveyed buildings. The surveys recorded low numbers of bats typical of the rural location. The surveys suggest that the main detached farmhouse may be used as a day roost by a small number of bats likely to be common pipistrelle bats; these will not be impacted by the proposed works to the stone barn.

4. Assessment

4.1 Constraints on survey information

The surveys were undertaken in June which is deemed to be an optimal time of the year to undertake bat roost inspection surveys and emergence surveys.

4.2 Constraints on equipment used

No constraints were considered present with regards to the equipment used during the activity surveys.

4.3 Evaluation of bat activity

No bats were recorded during the internal inspection surveys of either building, two bat droppings were recorded on stored material in the open area of the lean-to, these were likely to be from foraging bats entering this area to feed on insects trapped within it. During the emergence survey no bats were recorded emerging from either building and only a very low number of bats were recorded during the remainder of the survey. These bats were observed foraging and commuting over the site, showing a greater interest in the main farmhouse and garden areas.

4.4 Potential impacts of development

4.4.1 Designated sites

None predicted.

4.4.2 Roosts

It is considered that the re-development of the stone barn building will have no impact on bat roosts.

4.4.3 Foraging and commuting habitat

The buildings are located located on hard standing and the majority of works will be internal, there will be no increased loss of foraging or commuting habitat as a result of these works.

4.4.4 Breeding Birds

No evidence of current breeding bird activity within either building.

If works are undertaken outside of the main bird nesting season (mid-March to August inclusive) there should be no impact on breeding birds, as no birds would be present within the buildings.

4.5 Legislation and policy guidance

All bat species, their breeding sites and resting places are fully protected by law – they are all listed as European protected species.

All species of bat are fully protected under the Wildlife and Countryside Act 1981, the European Conservation (Natural Habitats etc.) Regulations 1994 and the Countryside and Rights of Way Act 2000. This legislation makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

National Planning Policy Framework (NPPF), Section 11: The recently published framework in 2012, replaces the previous Planning Policy Statement 9. Section 11: states - Conserving and enhancing the natural

environment, reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife, aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

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5. Recommendations and Mitigation

5.1 Further survey

Provided works are undertaken within the next 12 months it is not considered that further surveys are necessary, should 12 months elapse before works are undertaken an updated survey should be carried out to establish any recent bat usage.

5.2 Enhancement and Mitigation measures

5.2.1 Proposed enhancement for roost sites

Enhancement measures for bats should be possible within the new building; these could be in the form of artificial bat boxes attached to the buildings or on an appropriate outbuilding away from artificial lighting. If possible bat access slates or ridge tiles could be added to provide access for crevice roosting bat species.

5.2.2 Proposed mitigation for foraging and commuting habitat

No specific mitigation is deemed necessary to replace any habitat as part of the development of the site.

5.2.3 Precautionary Working Methods

To avoid impacts on bats which may use the building on a transitional or periodic basis, the commencement of works should be timed to avoid the main periods when bats are present and at their most sensitive to disturbance. Given the lack of evidence to support roosting bats within the buildings and the availability of other more suitable buildings and mature trees in close proximity to the site, it is likely that the most appropriate timing for works to the building would be in the autumn or spring (September/October or March/April), this period is when bats are considered less sensitive to disturbance and it is unlikely that there would be significant numbers of bats present within the building during this time as this is outside the main breeding season and bats would not be hibernating at this time.

Tiles should be removed carefully by hand during any roofing works; tiles should be lifted up vertically rather than dragging and gaps underneath or behind should be visually checked to ensure any bats that may be roosting underneath are not harmed.

If any bats are present then works should cease until advice has been sought from Natural England.

5.3 Mitigation licenses

No mitigation licences for European Protected Species (EPSL) are required to permit the development of the property as no bat roosts will be impacted.

6. Summary

6.1.1 Bat presence/absence

The predicted impact on local bat species is deemed to be low, as no actual or anecdotal evidence of bat presence was identified within the buildings to be re-developed. A common pipistrelle mating/night roost used by low numbers of bats is likely to be present in the main farmhouse.

6.1.2 Bat Roosts

Based on the lack of visual evidence and as no bats were recorded emerging from the buildings it is deemed that the impact upon bat roosts is negligible, the works will have no impact upon the bats roosting in the main farmhouse.

6.1.3 Ecological value of buildings on site

The building inspections and dusk emergence/activity surveys have confirmed that the ecological value of the buildings is low as no evidence of bats or breeding birds was identified during the surveys.

6.1.4 Recommendations

Section 5 provides details of proposed enhancement measures for the site.

It is considered that although the buildings may contain some limited potential roosting features for bat species the overall farm site contains a number of alternative structures which provide more suitable roosting places for bats such as the main house (which is heated) and mature trees.

The buildings may have potential for lone or opportunistic bats as bats are a mobile species and known to use a number of roosting sites during the season. Therefore the proposed pre-cautionary measures and timing recommendations are included to reduce the risk of bats being disturbed during the proposed conversion works and the works can therefore proceed without the need for a development/mitigation licence issued by Natural England.

7. References

Bat Conservation Trust (2012). Bat Surveys – Good Practice Guidelines. 2nd Edition. Bat Conservation Trust: London.

Countryside and Rights of Way Act 2000 (c.37). London: HMSO.

Dietz, C., von Helversen, O. & Nill, D. (2009) Bats of Britain, Europe and Northwest Africa. London: A. C. Black

Rydell J & Racey, P A (1993). Street lamps and the feeding ecology of insectivorous bats. Recent Advances in Bat Biology, Zool Soc Lond Symposium abstracts.

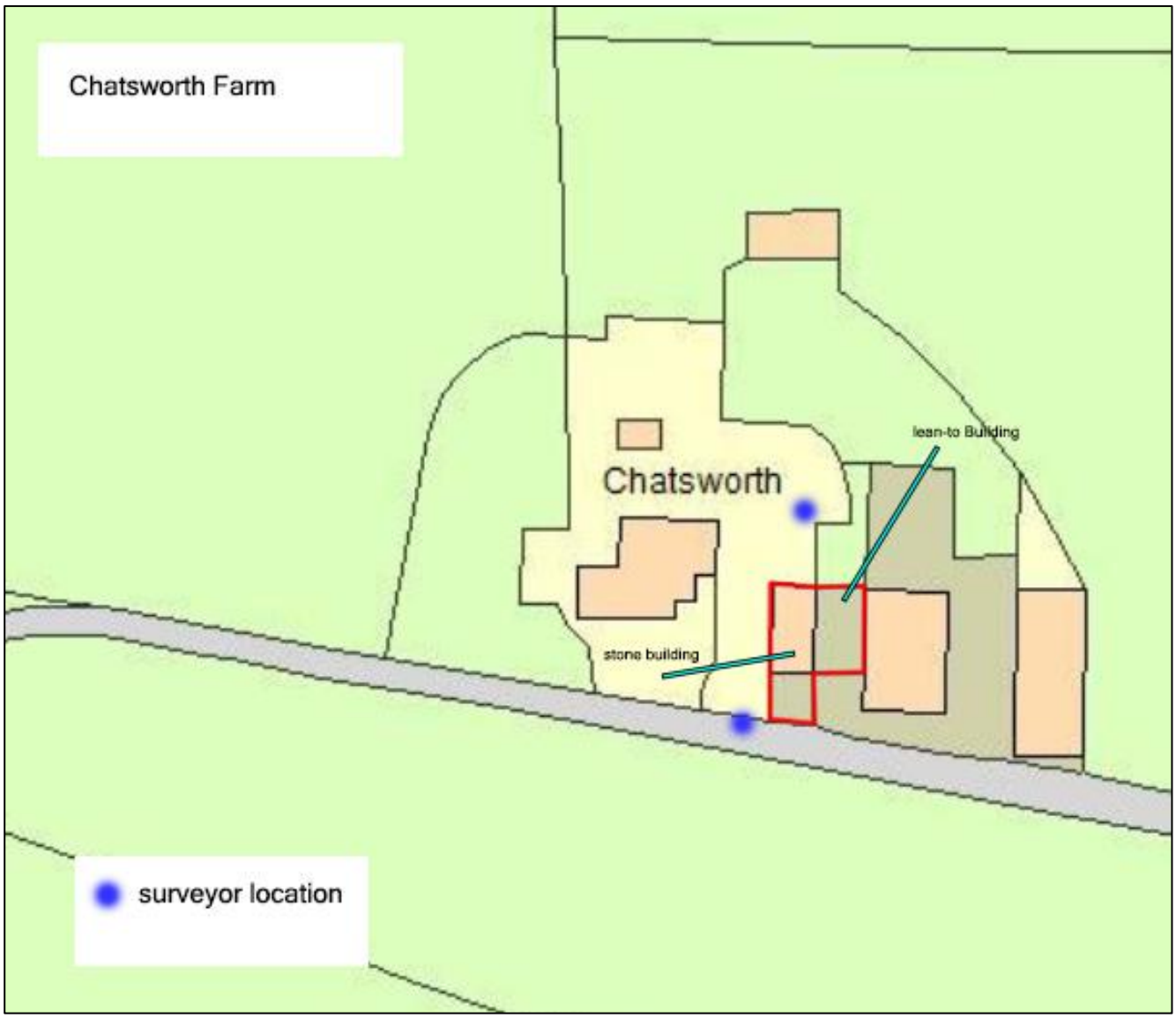
The Conservation of Habitats and Species Regulations 2010.

The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. London: HMSO.

UK Biodiversity Action Plan (2007). UK List of Priority Species. Joint Nature Conservation Committee. http://www.ukbap.org.uk/NewPriorityList.aspx.

Wildlife and Countryside Act 1981 (and amendments). London: HMSO.

Appendix A. Survey Plan



Appendix B. Bat Sonograms

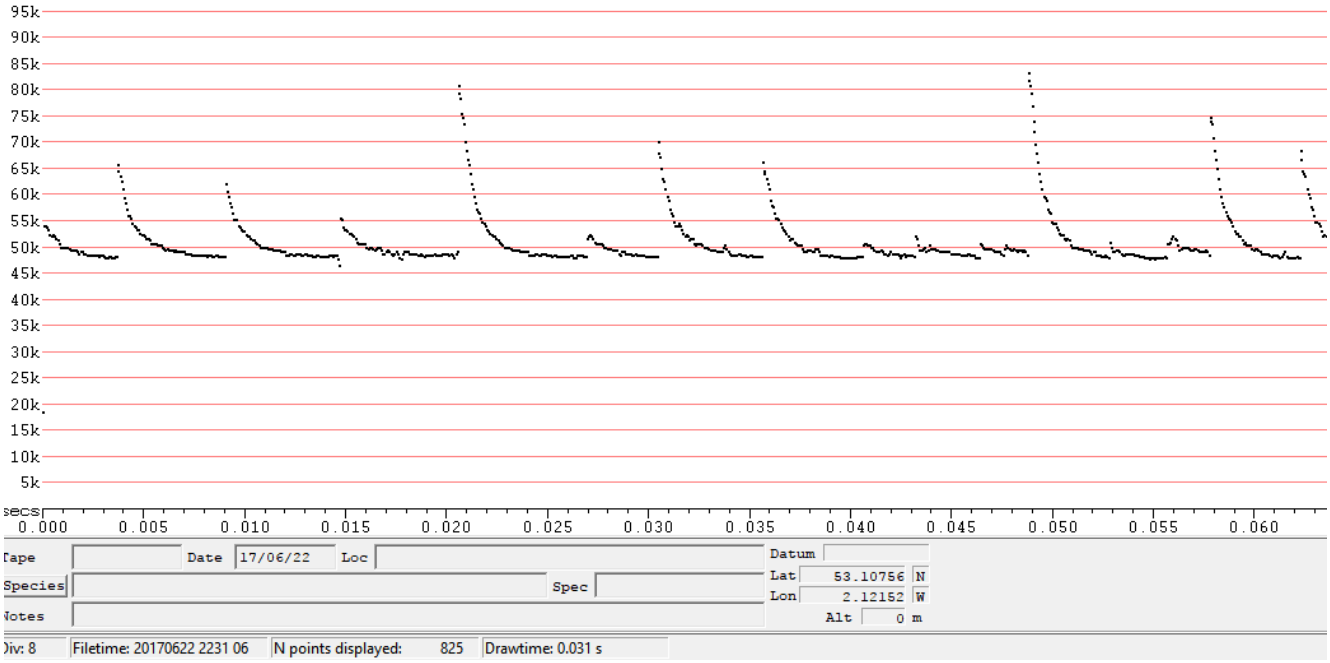


Figure 2 – Common pipistrelle and soprano pipistrelle calls, showing a number of social calls.

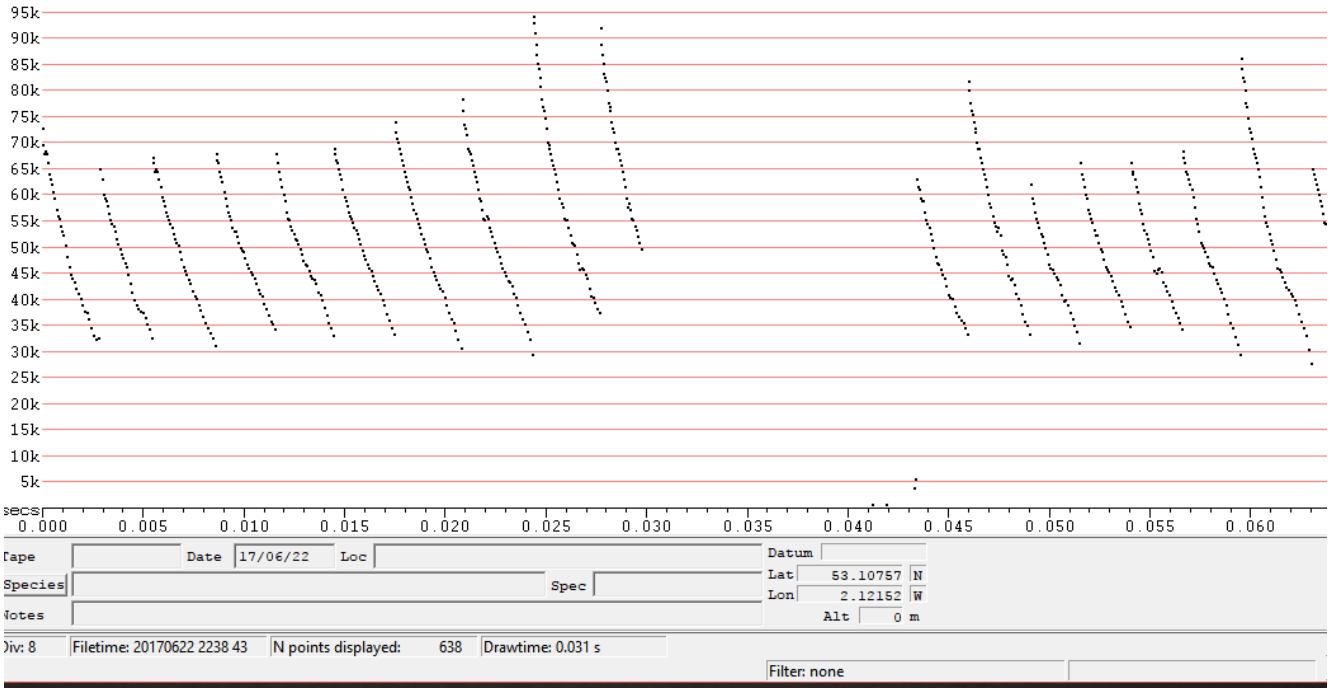


Figure 3 – Myotis call of a bat foraging over the garden and the yard.

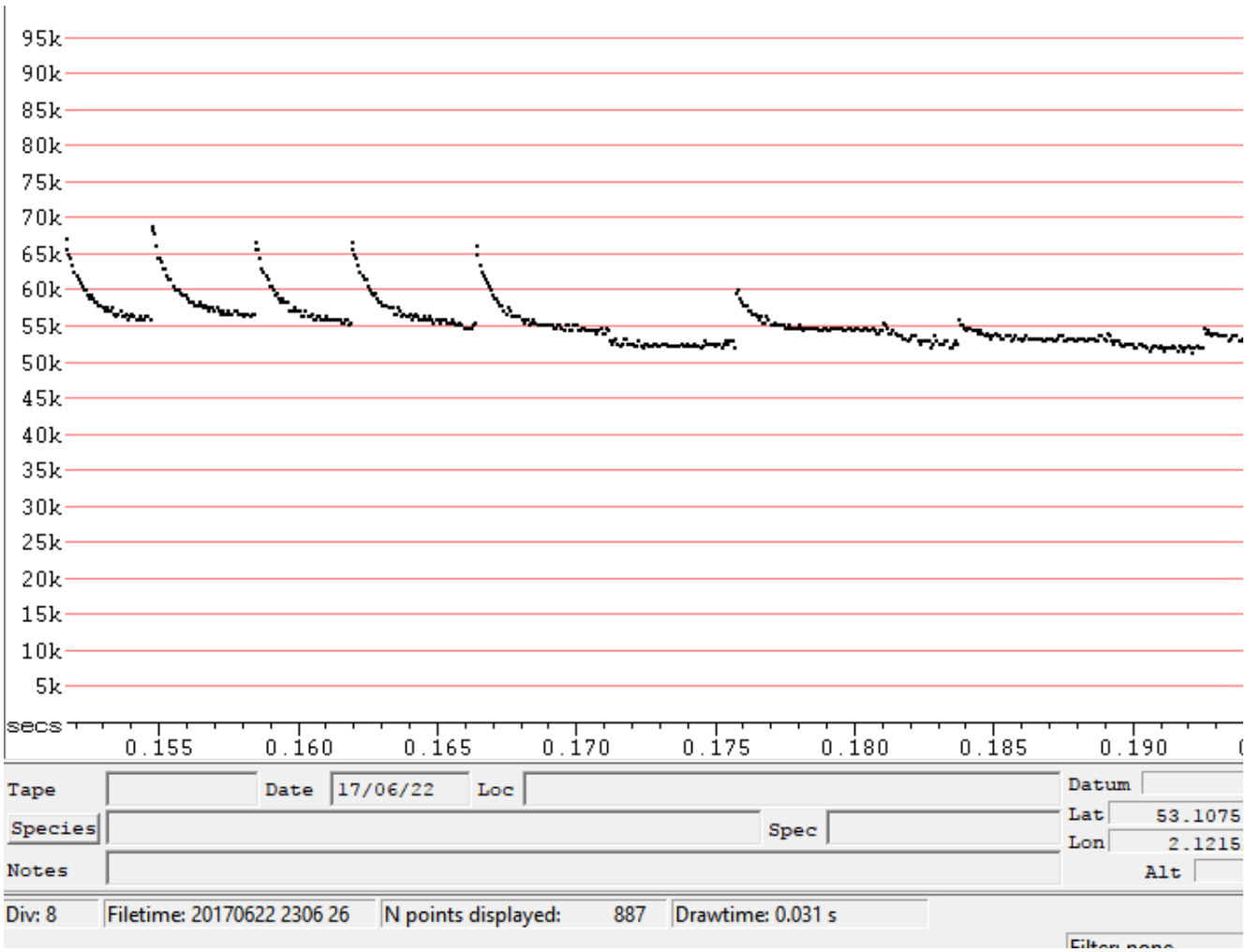


Figure 3 – Probable brown long eared bat call recorded over the rear of the yard towards hedgerow.