



Bat Activity Survey

Cockley Wood

July 2020

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Site:

Cockley Woodland Weddings,
Ninevah Farm,
Liley Lane,
Grangemoor
Wakefield, Yorkshire WF4 4EN

Dates:

Survey period 20th July to 28th July 2020

Client:

As per site

Client's agent:

Noel Scanlon
Director & Consultant
NSCL

Planning Authority:

Kirklees Metropolitan Council – reference 2019/62/93978/E

Our ref:

20-954

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1 Summary

A bat activity survey has been carried out using unmanned ultrasound recorders in order to assess the likely impact on bats resulting from a proposal to hold woodland weddings and events.

There is no evidence of any roosting bats within the survey area. Foraging bats are present within the woodland and around the car park, but are at very low levels around the wedding ceremony and site area.

There is potential for minor disturbance of foraging bats which may result from lighting, though it should rightly be pointed out that this is not traditional floodlighting, it is simply fairy light/festoon style lighting ('fairy lights'). Potential mitigation and compensation measures are proposed. No other impacts have been identified. By following the proposed mitigation and compensation measures, the proposed development will have negligible negative impact on bat species. Furthermore, as part of wider management plans for the venue, will very likely increase the habitat value of the woodland for bats.

2 Introduction

MAB Environment and Ecology Ltd was commissioned by Cockley Woodland Weddings to undertake a bat activity survey on an area of woodland currently subject to an application to increase the numbers of wedding events at the site. The planning application documents for the original refused application (LPA Ref: 2019/93978) included Ecological Impact Assessment (EclA) report dated 24-09-2019 (author JCA Ltd), which is referenced in this report. The EclA did not contain any bat activity surveys, but contained a desktop study (including biological records search), walkover survey for signs of tree roosts (none were found), an assessment of potential usage of the woodland by bats (high potential for foraging / roosting bats).

The EclA methodology stated that potential tree bat roosts (there being no buildings within the development area) were listed in Appendix 1, however none were found to be appended. No bat roosts were recorded within 2km of the site. The application was rejected partly on the grounds of ecology; the relevant section of the delegated decision report (ref 2019/62/93978/E) refers to bats in the following paragraph:

An acceptable assessment of how bats use the site has not been provided, nor have the submitted surveys been carried out during the optimal season for survey work, meaning that it is not possible to establish whether there is negative impacts on European protected species or priority habitat as a result of the development, and whether the submitted woodland management plan recommendations are suitable, and the reasoning behind the recommendations.

And:

The increased noise and disturbance of movement by guests and staff at the wedding venue and vehicular movements, the removal of trees, as well as the likely requirement for lighting within the site is considered by K.C Ecology likely to have a major disturbance on nocturnal species including bats and would likely be detrimental to local biodiversity and the function of the Kirklees Wildlife Habitat Network. Without further survey, the Council's stance has not been disproven.

And:

Based on the nature of the habitats present on the application site and their ecological connectivity with the surrounding landscape, the development would result in significant harm to a priority habitat that is considered as optimal as a foraging resource and commuting corridor for bats. No additional survey work has been submitted in support of this application in order to refute this stance.

The objective of this survey and report is to provide the evidence required to make a reasonable assessment of the likely impact of the development on bats, and to make recommendations for mitigation for impact, and for any compensation and enhancement that may be required in order to offset any impact to ensure a biodiversity net gain.

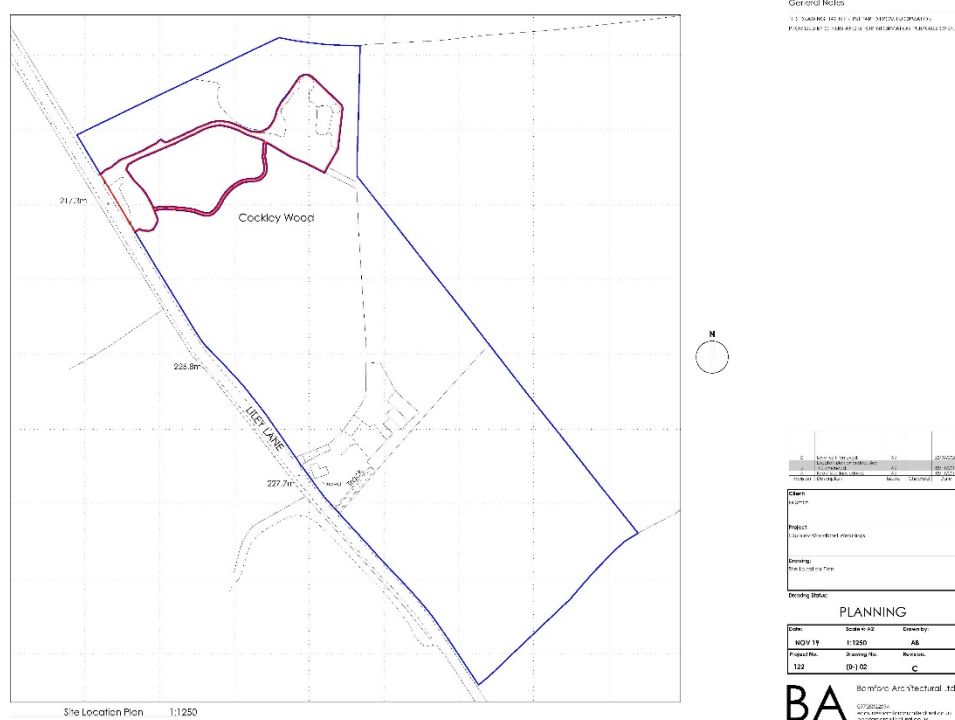


Figure 1: Site location plan with red line boundary

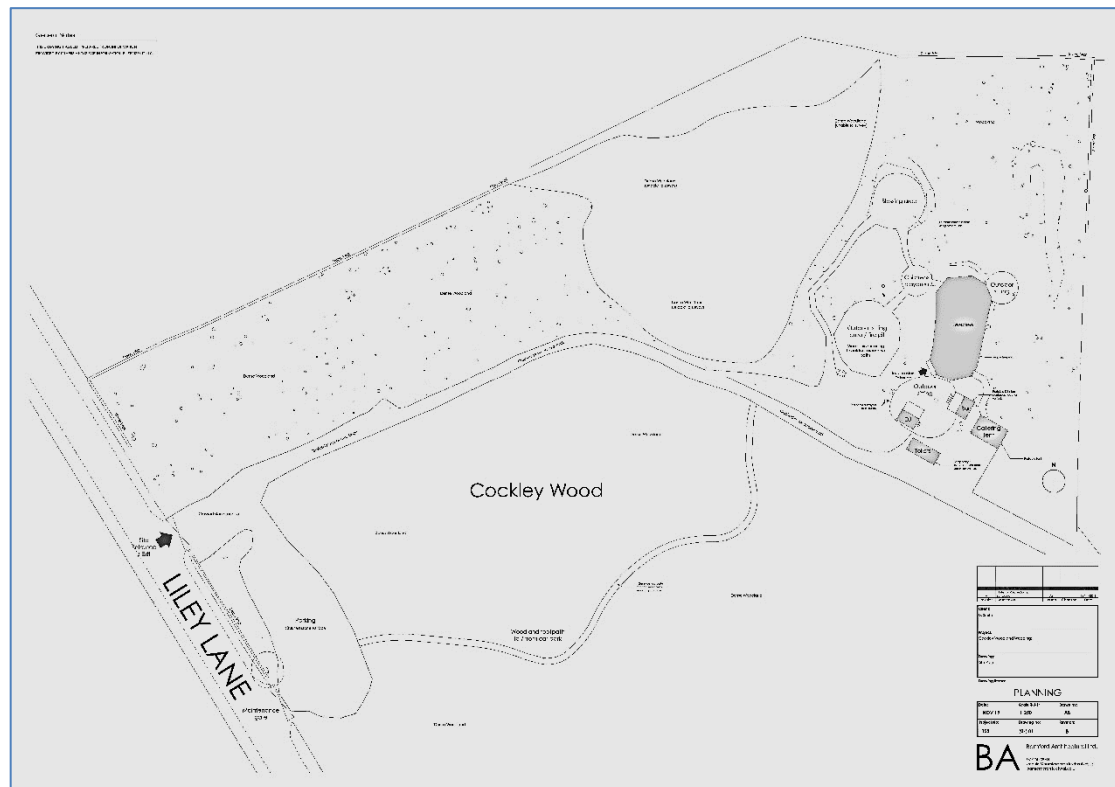


Figure 2: Site plan

For completeness, it is understood that the landowner (prior to Covid-19 restrictions) was operating a smaller number of events utilising the 'permitted development' regime.

3 Methodology

3.1 Desktop Study

3.1.1 The EcIA desktop study was found to be of suitable standard to support this survey, and being done in 2019 is recent enough to remain valid.

3.2 Field Survey

3.2.1 The site was surveyed by Giles Manners CEnv MCIEEM, a director of MAB Environment & Ecology Ltd. Mr Manners has been a professional bat ecologist since 2004, and has a Class Survey Licence WML CL20 (Bat Survey Level 4) registration number 2015-10306-CLS-CLS and also holds a Class Licence WML CL16 (Volunteer Bat Roost Visitor Level 2) – Natural England trainer license 2015-10305-CLS-CLS. Giles is also licensed by NE to survey for GCN's - Class Licence WML-CL08 (Great Crested Newt Class 1) registration number 2014-5604-CLS-CLS. Giles is a registered consultant for the Bat Low Impact Class Licence, registration ref RC039. He is also a zoologist of over 20 years' experience, a full member of the Institute of Ecology and Environmental Management and a Chartered Environmentalist. The surveys were carried out in accordance with the Bat Conservation Trust, Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).

3.2.2 It should perhaps be noted that all of the tree works (which in fact are not extensive so far as removal is concerned) were completed in 2019 prior to a TPO being made and confirmed. The impending application will result in no further tree felling. A separate Woodland Management Plan and Arboricultural Impact Assessment has been compiled separately by Messrs JCA Ltd. This survey also suggests that removal of several trees in 2019 does not appear to have had any effect on potential bat roosting or activity. Trees directly affected by the development scheme were assessed during the day from the ground using close focusing binoculars and a halogen torch (500,000 candle power). Features such as woodpecker holes, splits, cracks, rot holes, dense ivy, and peeling bark were looked for which are commonly used by bats for roosting and for shelter. Any features were then inspected for any signs of bat use,

including staining around potential access points, bat droppings bats, and the sounds / smells of bat roosts.

3.2.3 Other trees within the site and areas of vegetation were also assessed for value to bats and their importance as foraging and commuting habitat.

3.2.4 Overnight unmanned bat recorder sessions using four Pettersson D500x professional full spectrum recorders were run in 4 locations within the site. The units were set at c.1.5m height; external hi-gain microphones were used. The D500x settings were as follows:

Recording Setting	Level
Input gain	40
Trigger level	28
Interval	OFF
Sample frequency	500kHz
Pre-trigger	OFF
Record length	1
High pass filter	ON
Auto record	ON
Trigger sensitivity	Mediu

3.2.5 The D500x recordings were analysed using Batbioacoustics (BBA) software (demonstration version 2013). The CSV table results were filtered for confidence over 0.9. The resulting data was then presented as a pivot table using Microsoft Excel, with number of calls grouped into hours. Note that BBA species identification does not distinguish between different pipistrelle species, nor between noctule and Leisler's bat, but is very effective at separating myotis species from other bats. Whiskered / Brandt's are grouped due to the identical call structure. ID groups for locally occurring species are as follows:

- Pipistrellus = all pipistrelle species
- NSL = noctule, Leislars, or serotine) – N.B. serotine does not occur in this area.
- Mbra/Mmys = whiskered / Brandt's bat (cannot be separated by call)
- Mnat = Natterer's bat
- Paur = Brown long-eared bat

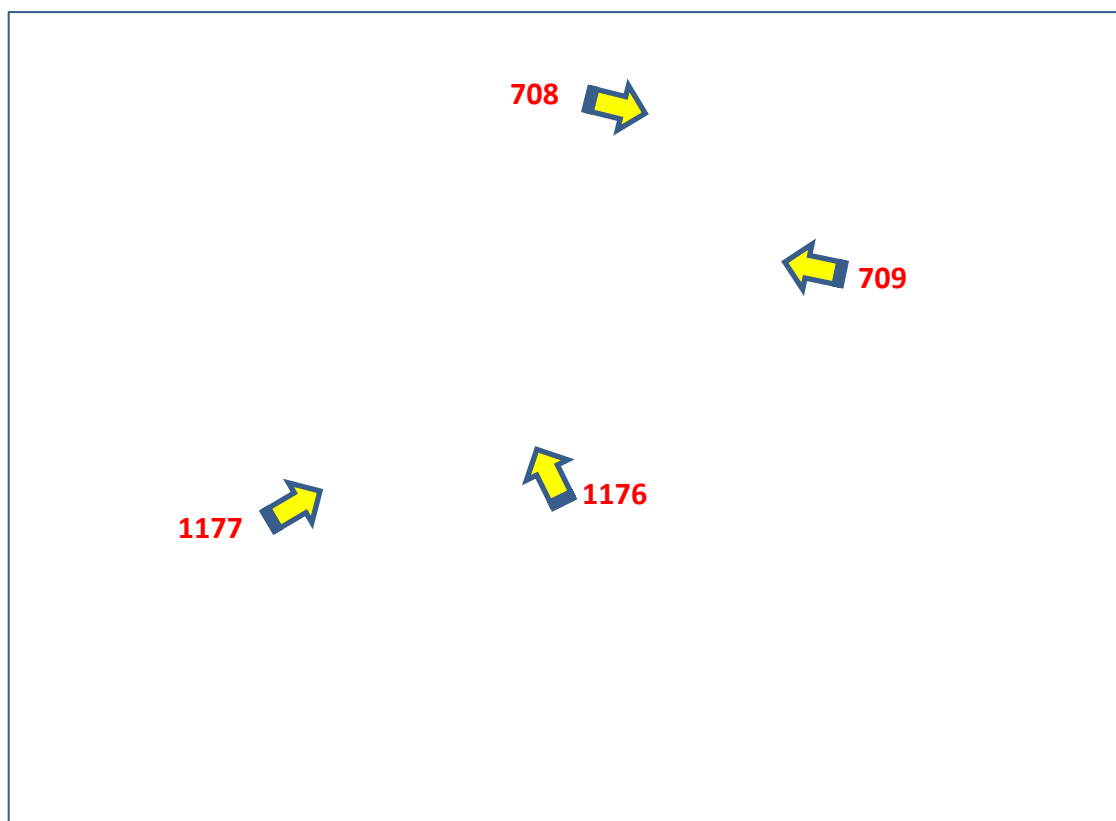


Figure 3 Recorder locations

4 Constraints

The activity study was not constrained. The survey period covered a time of year when bats are most active, with most species still in their breeding roosts. It is noted that this study took place over one-week period, and that activity at other times of year may differ. However, the potential impact of the proposed development on the available habitat was found to be low (in fact negligible in the actual wedding ceremony area) in comparison to for example, housing developments, (i.e. the overall canopy cover is not to be reduced – see impact assessment for further details) and therefore the activity study is proportionate to the scale of impact.

5 Site Description

An area of woodland with “woodland wedding” facilities (namely movable timber shepherds huts, a canvas tent, and seating areas). The ecology of the woodland is adequately described in the EclA: it is predominantly semi-mature sycamore with a shrubby boundary, and occasional mature oaks. No over-mature or veteran trees were noted.

6 Results

6.1 Desktop Study

See EclA compiled by Messrs JCA Ltd as referred to above.



Figure 4 Cockley woodlands, with approximate affected area shaded

6.2 Visual Inspection

Trees potentially affected by the development were assessed from the ground using binoculars. With few exceptions, trees were found to be immature sycamore, unsuitable for bat roosts due to absence of suitable cavities. Several oak trees were also within the potential indirect impact zone; none of these showed any signs of having cavities which could be used by bats for breeding. There may be some potential for a day roost, especially for common pipistrelle, as these can take the form of peeling bark or ivy and are therefore ubiquitous in a woodland environment.

There are several bat boxes within the woods already, which were not inspected.

6.3 Pettersson D500x survey

Total calls

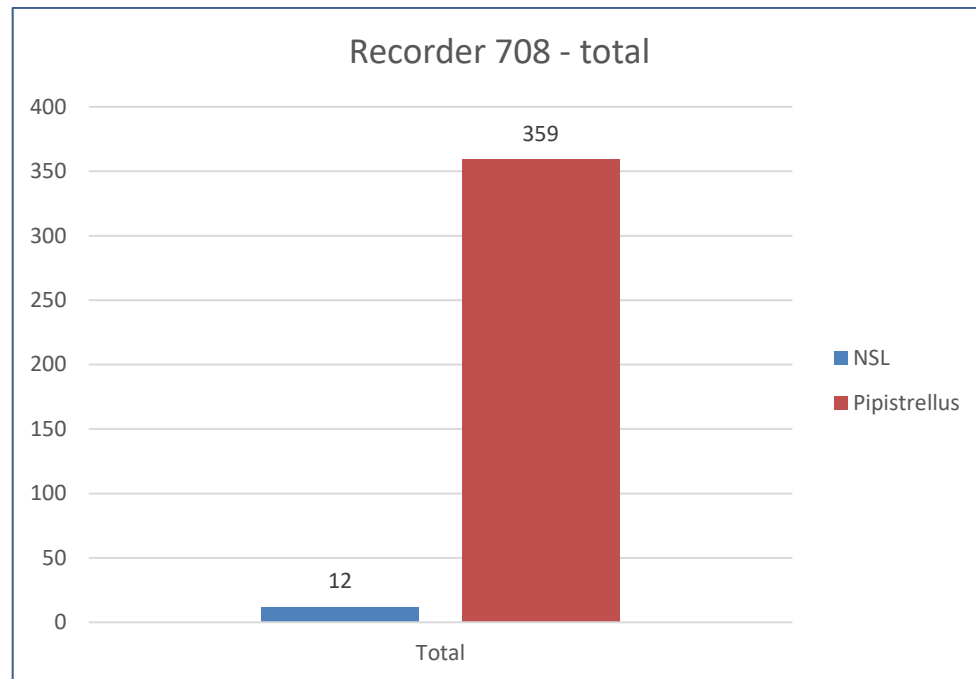


Figure 5 Unit 708 total

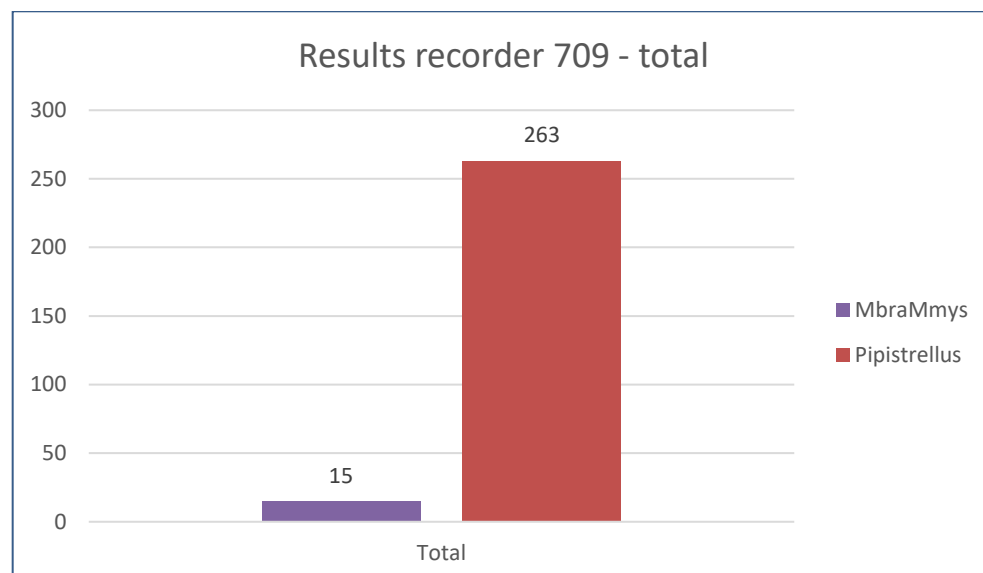
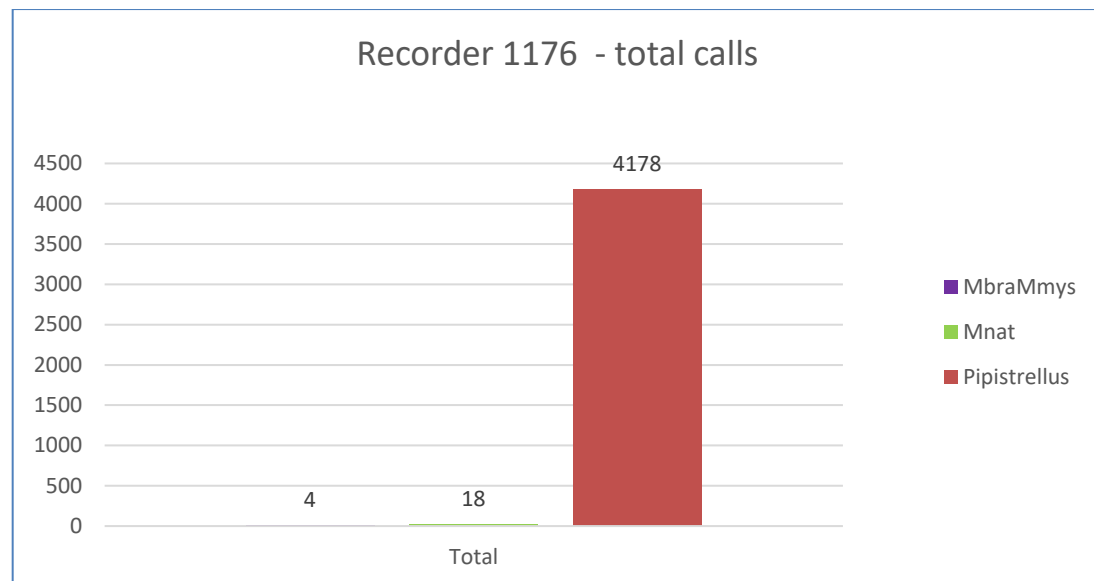
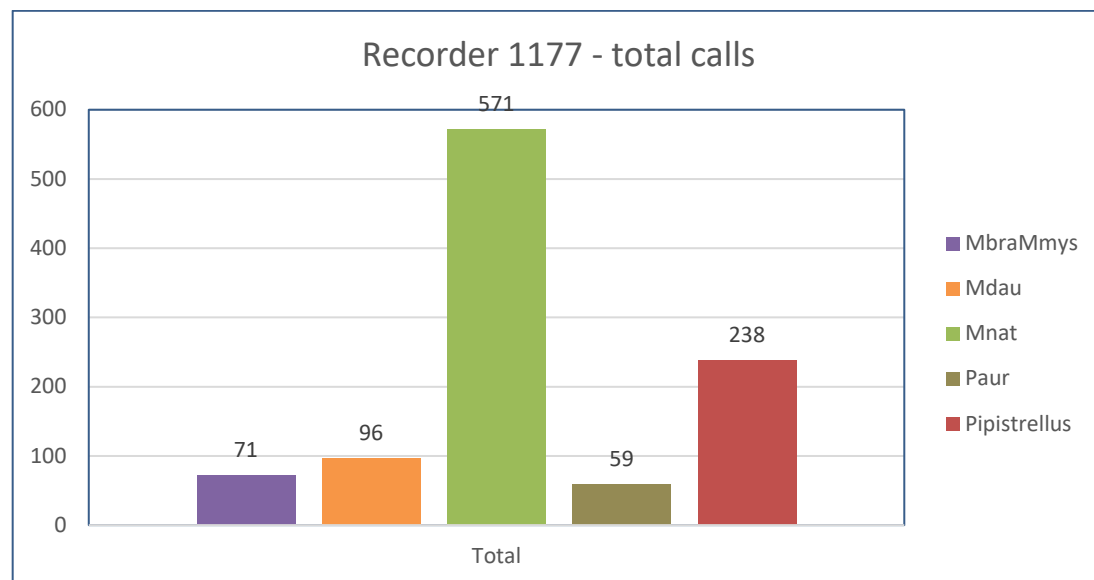


Figure 6 Unit 709 total

**Figure 7 Unit 1176 total****Figure 8 Unit 1177 total**

Calls per day

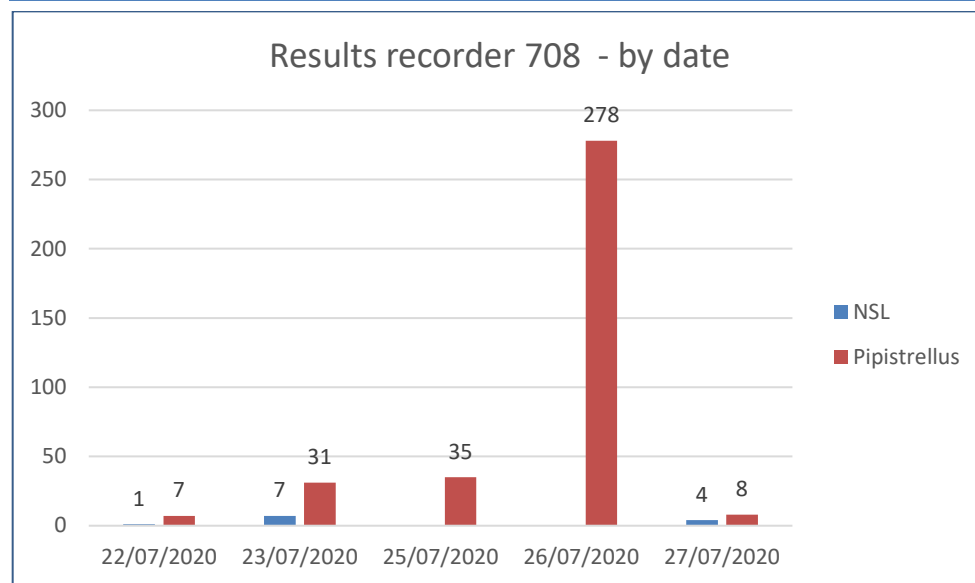


Figure 9 Unit 708 by date

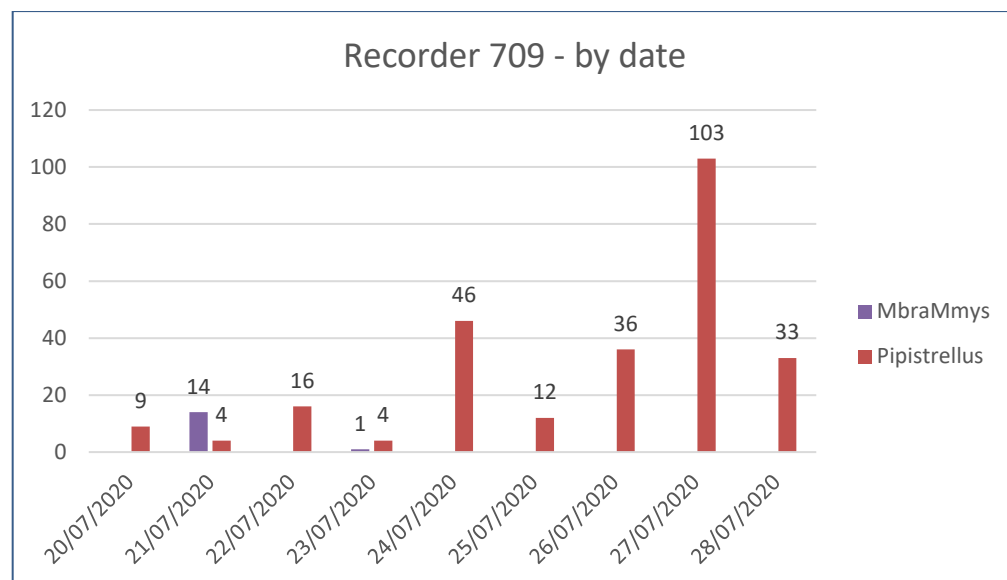
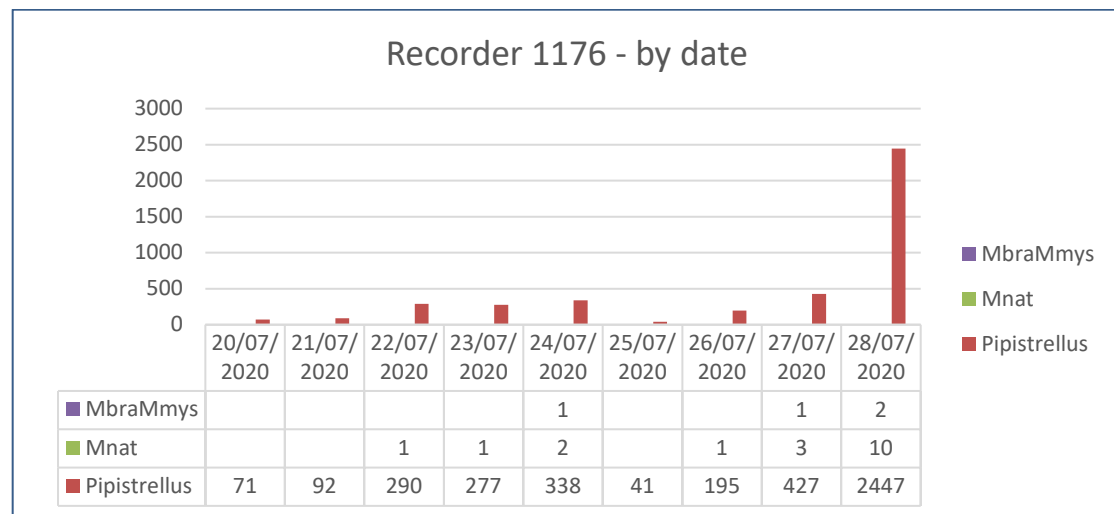
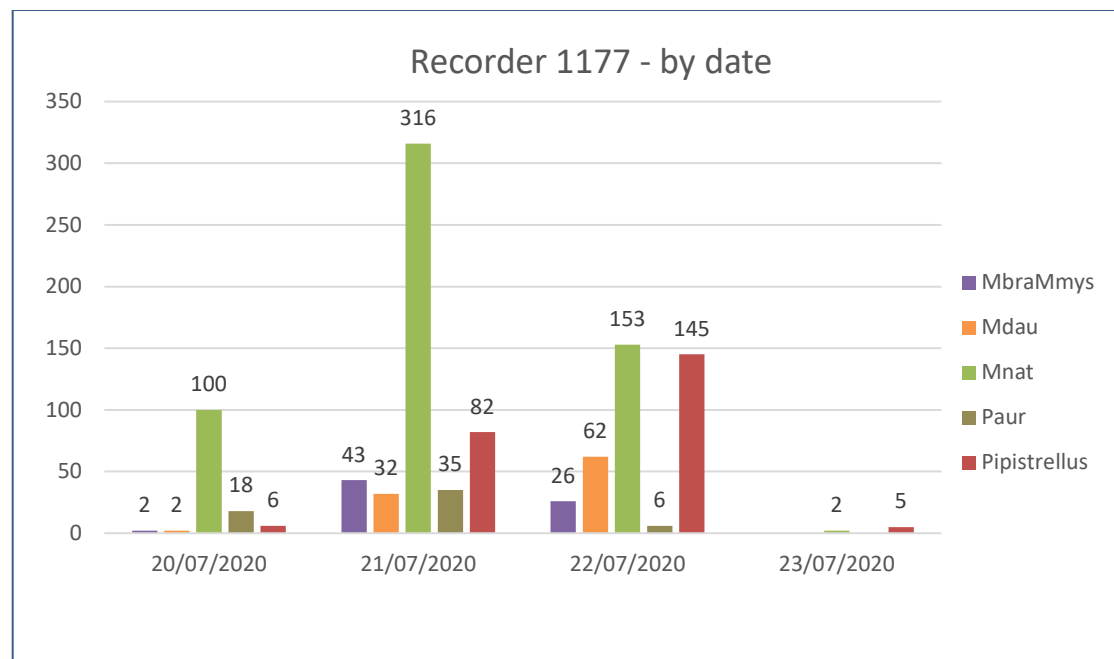


Figure 10 unit 709 by date

**Figure 11 Unit 1176 by date****Figure 12 Unit 1177 by date**

Calls per hour

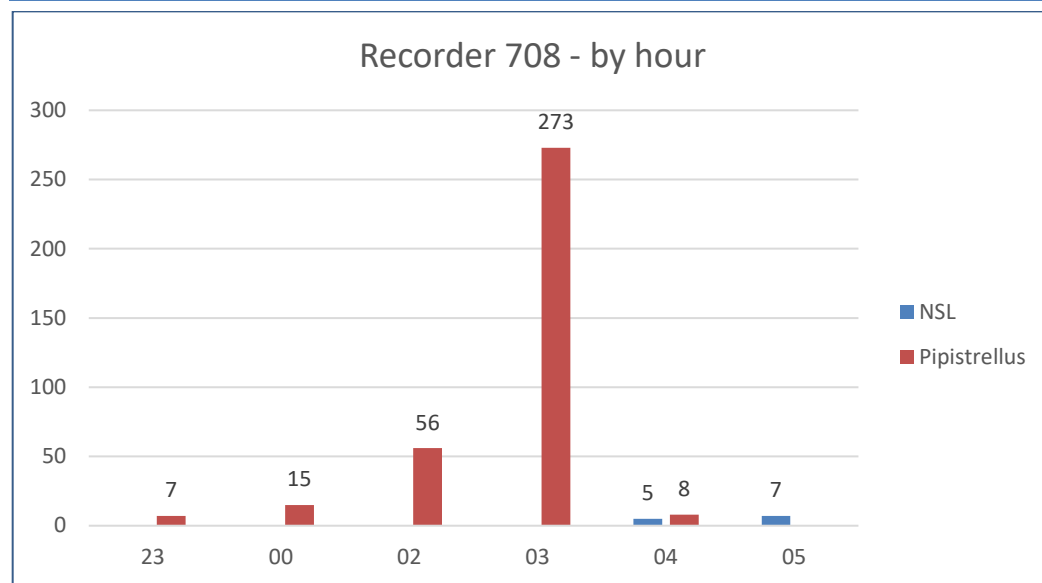


Figure 13 Unit 708 by hour

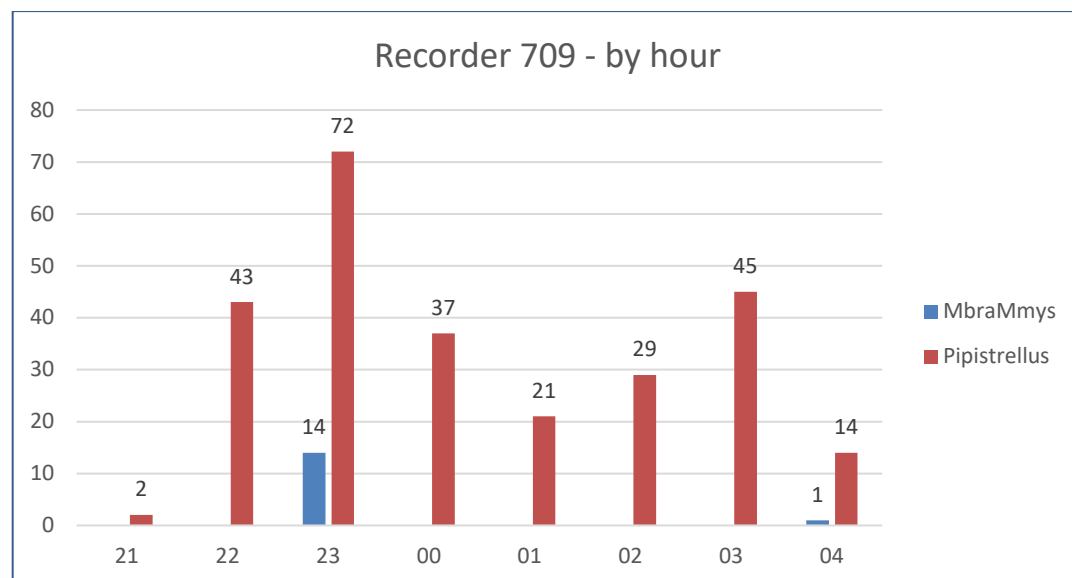


Figure 14 unit 709 by hour

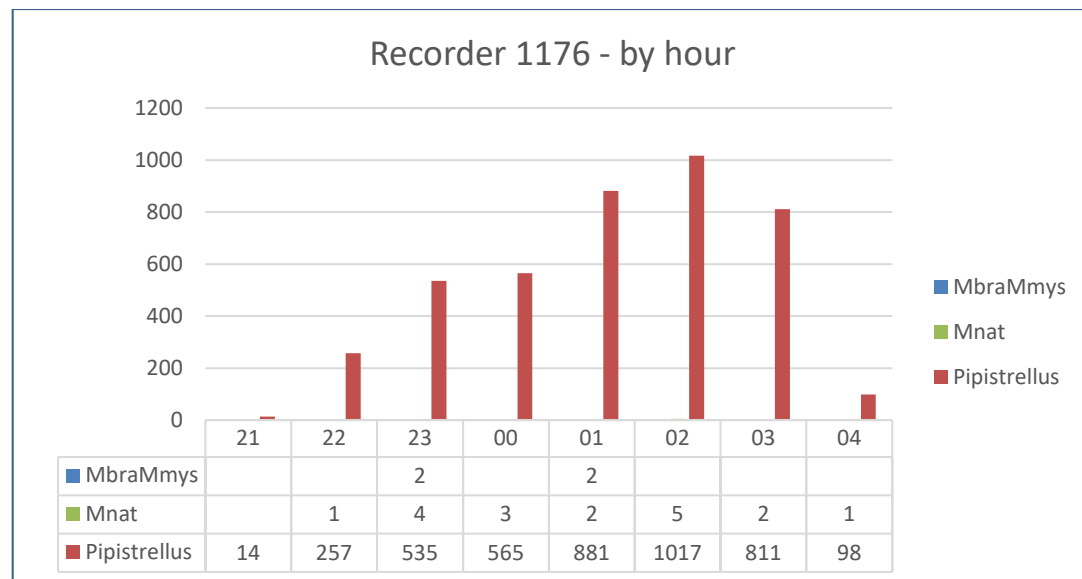


Figure 15 Unit 1176 by hour

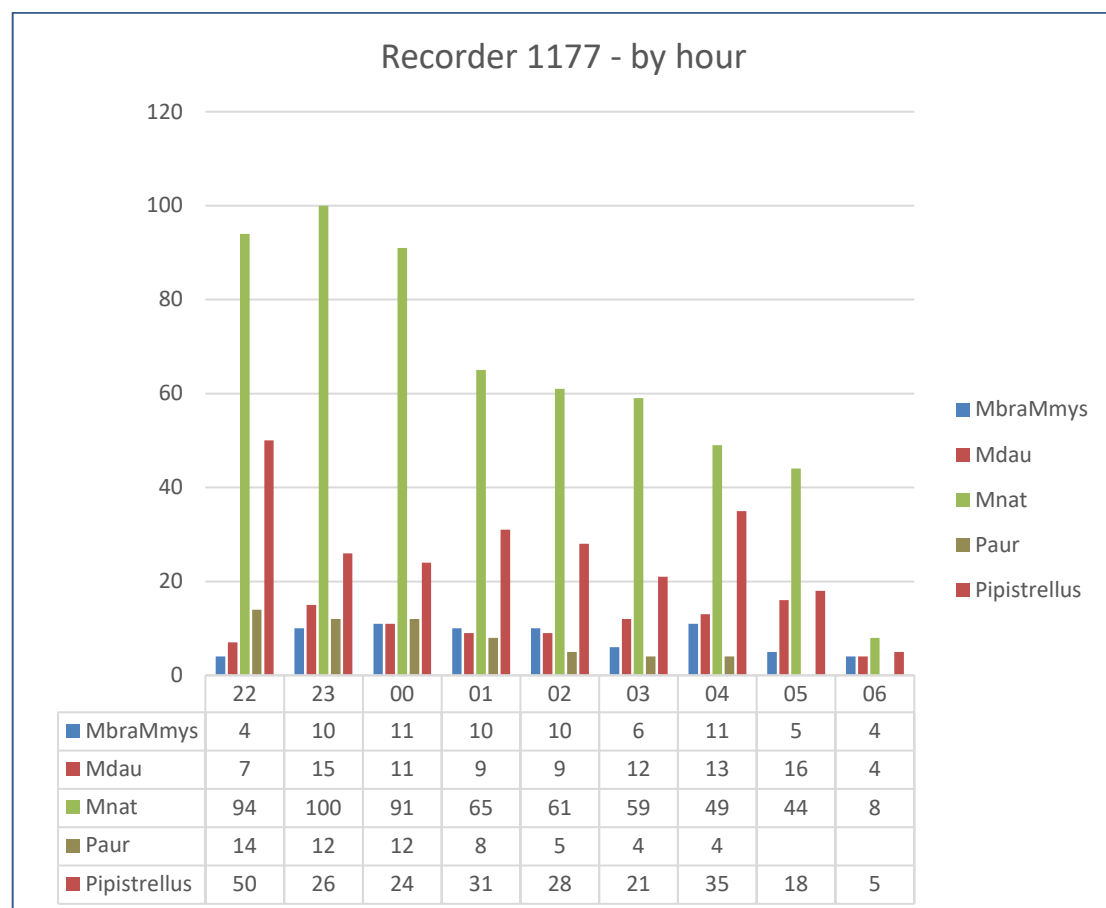


Figure 16 Unit 1177 by hour

6.4 Discussion of results

In discussing this data, a few factors need to be considered and acknowledged. Firstly, that these are extracted calls, not bats – therefore one bat flying back and forth (as pipistrelles can do for hours on end when foraging) can result in hundreds of calls extracted, as their calls are loud and they fly quite low. By contrast, a brown long-eared bat gleaning moths from the canopy may not be picked up at all, as their calls are quiet. *Myotis* bats are identified successfully with this software, because it was designed for use at swarm sites; we have “truthed” this software by harp trapping at swarm sites and we have found a very good correlation. Relatively simple species such as common and soprano pipistrelles are not distinguished. We can however use manual analysis to confirm pipistrelle species.

The first fact to note is that the two recorders around the wedding site ceremony area (708 & 709) have had very low activity levels - 359 and 263 pipistrelles and a negligible amount of other species. This is less than 50 calls per night on average. Looking at the calls per date, it is apparent that the activity is foraging only, because there is such a wide variation between nights, indicating that a foraging bat is present one night and not another (whereas roosting bats would be present each night). This is reinforced by the call per hour charts, which show a peak in activity around 11pm and 3am, both of which are well away from roost emergence / re-entry times for this species at this time of year, and there is hardly any activity around dusk – thus, the bats have come from a long way away to forage here.

Other species recorded around the wedding site are Noctule / Leislers' (NSL, not distinguished) and whiskered / Brandt's bat (MbraMmys, not distinguished). The NSL calls can be picked up at hundreds of metres, due to the loud calls, so this low number of calls means little; plus, they were recorded close to dawn with no dusk detection, strongly indicating that a roost is unlikely to be present nearby. The MbraMmys calls are also at very low levels, just 15 calls, at dusk and then at dawn, which indicates a commuting bat.

The recorder in the woods, away from the main wedding ceremony event area, along the footpath linking the car park to the wedding site, has many more bat calls than the others with 4178 pipistrelle calls. There are also a few myotis bat calls: 18 Natterer's bat (Mnat) calls and 4 whiskered / Brandt's bats. The high number of pipistrelle calls occurred on one night (28th July). Significantly, these calls peak in the middle of the night, rather than at either end (dawn / dusk) – see Fig 13. This strongly indicates foraging bats, because roosting bats tend to peak at emergence and re-entry times. Again, the myotis bat calls are at a very low number with no peaks, and therefore do not indicate significant use or roosts.

Recorder 1177, in the car park, has a wider range of species than the others, including consistent numbers of Natterer's bats. Figure 11 shows that this recorder ceased to function on the 23rd July, which is reported in the unit's log as an error state. However, the 3 days have good numbers of recordings and can be extrapolated. The most significant factor is the presence of Natterer's bat: the numbers are high enough and consistent enough to prove presence; whereas by contrast the numbers of Daubenton's calls are low and are likely to be misidentified Natterer's bats as the site is not close enough to a river for this species. In terms of timing, the Mnat calls peak soon after dusk (see Fig 14), with no corresponding dawn peak. The dusk peak indicates that the roost is not far away; the presence throughout the night shows that the species is foraging and not just commuting. The absence of a dawn peak shows that there is no roost very close to the detector, as they tend to fly around the roost before re-entry. The numbers of brown long-eared bat calls (Paur) are low, but these are not often misidentified, so it indicates some low-level activity, not surprising as this is a woodland species. Pipistrelle numbers are relatively low at this recording site.

7 Impact Assessment

The recorders indicate that there is unlikely to be any impact on bat around the wedding ceremony event site itself, due to a low level of recorded bat activity and absence of any evidence of a roost, nor any potential tree roosts.

Along the footpath area there is evidence of significant pipistrelle foraging – the only impact along this route could be from the low-level fairy lights. Pipistrelles are not a light sensitive species and are happy to live within urban environments, therefore we would not expect any impact from these fairy lights.

The car park, which appears to be the most cleared area, historically clear of abundant tree coverage, is the most active area for bats. This area is the most likely to be affected by lighting from the proposed wedding usage. Although there is no evidence of a roost, and no potential bat roost habitat in the affected area, the risk of some minor disturbance on foraging bats is relatively high. Although unclear the extent to which this would actually relate to the proposed development (and it is accepted possibly none) and whether it is reasonable in the circumstances knowing the intended operation of the proposed venue, it is possible that the Council may wish to for completeness to consider conditioning some mitigation in the resulting planning permission in the form of a lighting strategy/management plan, or perhaps more properly its inclusion as part of a wider management plan), combined with compensation if necessary. As a result of this survey and report, especially given the sensitive low-level fairy lighting, we would suggest that such a lighting strategy was probably not an essential requirement, but part of good management overall.

For completeness, it is understood that more traditional floodlighting is not in any way forming part of the operation of the proposed development, either in the car park area or the wedding ceremony area.

With reference to noise disturbance on bats forming part of the reasons for refusal in the previous planning application, we note that the car park area, being the most

active bat area in the woodland site, will not have amplified sound at any time. It is our opinion that occasional music forming part of a wedding ceremony will not result in any significant disturbance impact on foraging bat species. In many years of bat studies, we have found that bats are relatively tolerant of noise compared to other mammals; we would note, for example, the regular presence of large bat roosts in many churches where there is loud organ music at many times of the day and night. We are therefore surprised to see this forming part of a reason for refusal of the previous planning application by the Council.

8 Mitigation & Compensation

8.1 Mitigation Summary

A lighting strategy could be adopted or form part of a wider management plan, to specify for completeness and security that there will be no floodlighting of the car park area, and that any lighting to be installed will be low level. Any installed lighting should follow the guidance of the Institute of Lighting Professionals (see references). This will ensure that when weddings are taking place, impacts on bats will be minimal. Lighting of the footpath should remain as it is, namely a single strand of fairy lights.

8.2 Compensation / enhancement

In order to secure a net gain in biodiversity (in line with national planning and local planning policy, and to further the safeguarding of the Kirklees Wildlife Habitat Network, we recommend that the paucity of suitable roosting habitat within the woodlands be supplemented by installing 20x long-lasting bat boxes throughout the woods. As identified, several bat boxes placed by the landowners themselves exist in the woodland already, so further installation would not be an arduous or unreasonable requirement here.

9 Information concerning bat protection and the planning system

9.1 Relevant Legislation

All bat species are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended), the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations 2017').

Under the WCA it is an offence for any person to intentionally kill, injure or take any wild bat; to intentionally disturb any wild bat while it is occupying a structure or place that it uses for shelter or protection; to intentionally damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection; to be in possession or control of any live or dead wild bat, or any part of, or anything derived from a wild bat; or to sell, offer or expose for sale, or possess or transport for the purpose of sale, any live or dead wild bat, or any part of, or anything derived from a wild bat.

Under the Habitat Regulations 2017, it is an offence to (a) deliberately capture, injure or kills any wild animal of a European protected species (EPS), (b) deliberately disturb wild animals of any such species, (c) deliberately take or destroy the eggs of such an animal, or (d) damages or destroys a breeding site or resting place of such an animal. Deliberate disturbance of animals of a European protected species (EPS) includes in particular any disturbance which is likely to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

Prosecution could result in imprisonment, fines of £5,000 per animal affected and confiscation of vehicles and equipment used. In order to minimise the risk of breaking the law it is essential to work with care to avoid harming bats, to be aware of the procedures to be followed if bats are found during works, and to commission surveys and expert advice as required to minimise the risk of reckless harm to bats.

9.2 Licences

Where it is proposed to carry out works which will damage / destroy a bat roost or disturb bats to a significant degree, an EPS licence must first be obtained from the Natural England (even if no bats are expected to be present when the work is carried out). The application for a license normally requires a full knowledge of the use of a site by bats, including species, numbers, and timings. Gathering this information usually involves surveying throughout the bat active season. The licence may require ongoing monitoring of the site following completion of the works.

Licences can only be issued if Natural England are satisfied that there is no satisfactory alternative to the development and that the action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

9.3 Planning and Wildlife

National planning guidance for ecological issues is set out in the updated February 2019 National Planning Policy Framework (NPPF). The requirements are consistent with those specified in the July 2018 NPPF; which advocate biodiversity net gain and improvement where possible, as evidenced below.

Paragraph 174 refers to the requirement of plans to “protect and enhance biodiversity and geodiversity” In order to do this, “plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

In paragraph 175 the NPPF indicates that “when determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”

The accompanying ODPM / Defra Circular 06/2005 remains pertinent; circular 06/2005 is prescriptive in how planning officers should deal with protected species, see paragraphs 98 and 99:

The presence of a protected species is a material consideration when considering a proposal that, if carried out, would be likely to result in harm to the species or its habitat (see ODPM/Defra Circular, para 98)

LPAs should consider attaching planning conditions/entering into planning obligations to enable protection of species. They should also advise developers that

they must comply with any statutory species protection issues affecting the site (ODPM/Defra Circular, para 98)

The presence and extent to which protected species will be affected must be established before planning permission is granted. If not, a decision will have been made without all the facts (ODPM/Defra Circular, para 99)

Any measures necessary to protect the species should be conditioned/planning obligations used, before the permission is granted. Conditions can also be placed on a permission in order to prevent development proceeding without a Habitats Regulations Licence (ODPM/Defra Circular, para 99).

The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances.

Further to NPPF and ODPM Circular 06/2005, Section 40 of the Natural Environment and Rural Communities Act (2006) states that ‘Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity’. Section 40(3) also states that ‘conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat’.

10 References

Andrews Henry (2018) *Bat Roosts in trees A guide to identification and Assessment for tree-care and ecology professionals*

BS42020. Biodiversity - Code of Practice for planning and development. British Standards Institution 2013.

Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System.

<http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity>

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

Institute of Lighting Professionals ILP <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

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

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

National Planning Policy Framework 2019:

<https://www.gov.uk/government/collections/revised-national-planning-policy-framework#revised-national-planning-policy-framework>

NYBG 2013 *Minimum Standards for Bat Surveys in North Yorkshire*
Flow diagram for small applications needing bat surveys between October and April

Richardson, P. (2000). *Distribution atlas of bats in Britain and Ireland 1980-1999*. The Bat Conservation Trust.

Russ, J. (2012). *British Bat Calls. A guide to Species Identification*. Pelagic Publishing 2012

The Conservation of Habitats and Species Regulations 2017.

<https://www.legislation.gov.uk/uksi/2017/1012/contents/made>