Land Use Consultants
(for Jewish Care)

Kay Court

Bat survey

Dr Greg Carson

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Report control

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Contents

Executive summary

Location	Kay Court, 368-372 Finchley Road, NW3 7AJ (OS GR: TQ 251861)
Previous surveys	Kay Court - Daytime Inspection to Determine Bat Roost Potetital [sic] of Buildings and Trees. Land Use Consultants, 9 Aug 2011.
Survey	Dusk/dawn and dusk activity surveys of the buildings.
Conclusions	Bat activity in the vicinity of the properties is limited and confined to that of common pipistrelle, likely to originate from the south / south-east. At no stage were bats observed emerging from or returning to the buildings, nor was there any indication that bats may have been roosting within these buildings. As such, it is unlikely that bats would be a constraint to the development.
Recommendations	Should a period of greater than 2 years lapse before demolition, it is advised that both the daytime and nocturnal surveys are repeated. Opportunities exist for low / no cost modifications to new build design in order to create environments favourable to bats, and thereby contribute to biodiversity enhancement.

1. Introduction

1.1. Ecology Network Ltd was commissioned by Land Use Consultants (on behalf of Jewish Care) on 16 August 2011 to undertake a bat activity survey of a Kay Court, a former care home at 368-372 Finchley Road, London, NW3 7AJ (OS Grid Ref: TQ 25109 86089; Fig 1).

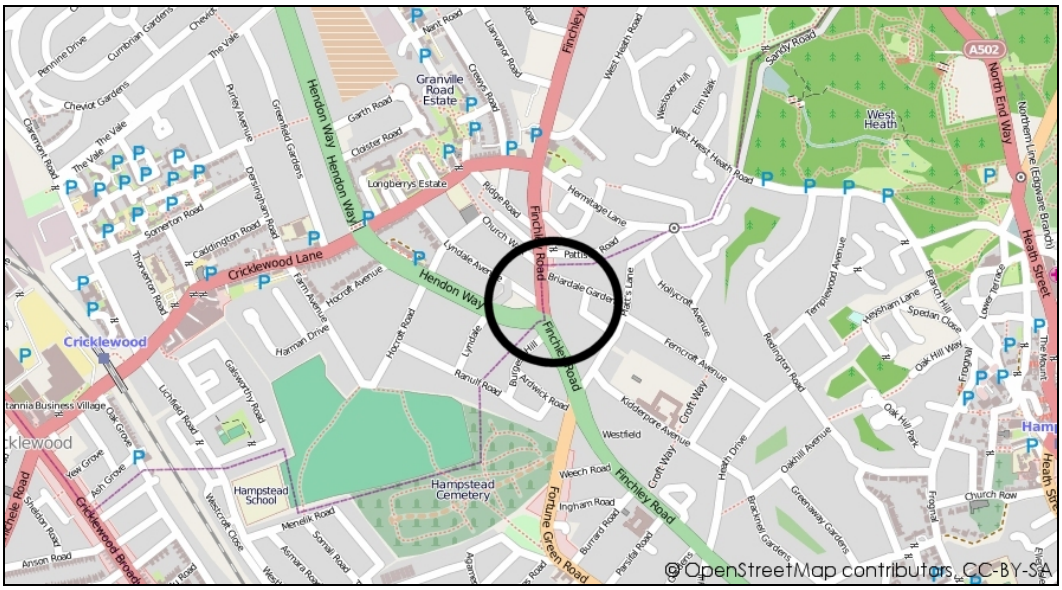


Fig 1 Location plan Kay Court

1.2. The residence comprises in the main two large buildings in close proximity (and connected by walkways) facing Finchley Road (A598), north London.

1.3. It is intended to apply for planning consent to demolish the buildings and replace with new flats.

1.4. In order to ensure that the proposed development complies with legislation with regard to bats, an internal & external inspection was undertaken on 9 August 2011 [1]. Although no evidence of bats was found, it was noted that there were some areas / features which could accommodate bats that remained inaccessible. Consequently, nocturnal surveys were advised to provide a greater degree of certainty regarding the presence of bats.

1.5. This interim report presents the results of a dusk/dawn survey, methods used and recommendations. The report will be updated and reissued on completion of a second dusk survey.

[1] Kay Court - Daytime Inspection to Determine Bat Roost Potetital [*sic*] of Buildings and Trees. Land Use Consultants, 9 Aug 2011.

1.6. This report should be read in conjunction with the results of the daytime survey[1].

2. Site and building layout

2.1. The properties are situated on Finchley Road, a main arterial route into central London from the north, opposite Lyndale Avenue and almost directly opposite the junction of Hendon Way (A41).

2.2. The area is mostly residential, with large semi-detached properties with gardens being the norm. The nearest area of significant green space is the Hampstead Cemetery and sports pitches which lie on the other side of Finchley Road, some 350m to the SE. There do not appear to be any significant water bodies in the vicinity.

2.3. The front of the buildings face west, on to the main road. The southernmost property (No. 368) comprises a large, three-storey, double fronted late Victorian building with several modern extensions at the rear, including one single storey, extending some 10m from the original building. The northernmost property (No. 370 - 372) is more recent and comprises two large, three storey semi-detached houses. The two are connected by several steel aerial walkways. For a full description, see the previous report.

2.4. Large gardens occupy the rear of both properties, internally broken up by hedges, shrubs and occasional trees. The properties back on to other gardens, within which are mature trees. A small bungalow ('summerhouse') is situated within the rear garden of No. 368, some 13m from the main house.

2.5. A number of features of both properties are suitable for accommodating bats, and these are described in the daytime survey report[1].

3. Bat ecology

3.1. There are seventeen (including the recently identified Alcathoe' bat) types of bat in Britain. Many of these are considered to be threatened, largely due to habitat loss and disturbance / damage to roosts. Most of these species regularly use buildings, as well as trees, as roosts.

3.2. Bats are highly mobile flying mammals which in Britain feed entirely on insects. They are able to fly and feed in the dark by using a system of echolocation that gives them a 'sound picture' of their surroundings.

3.3. In winter, when prey is scarce, bats hibernate in humid parts of buildings, caves and hollow trees where temperatures are stable. They may wake occasionally but only become fully active in the spring.

3.4. Female bats gather together in maternity roost in summer to give birth and rear their single offspring. Breeding extends from early June – late August. Like other mammals, bats have fur and give birth to live young. Infant bats suckle on their mothers' milk for several weeks until they can fly and hunt for themselves. Bats are long lived and some British species are known to live for over 25 years.

3.5. A breeding roost will usually be well concealed within a man made structure or tree and requires enough space for free movement. These roosts can sometimes be detected by the presence of small mouse-like droppings. Roosts may also be identified by looking for bats 'swarming' at the roost entrance just before dawn.

3.6. A hibernation roost is often found in smaller crevices and may or may not be visible from the exterior. Hibernating bats are normally found in smaller numbers than in breeding roosts, from October - April, depending on climatic conditions.

4. Legislative & policy background

Bat legislation & policy

4.1. All bats are protected under Section 9 of the Wildlife and Countryside Act, 1981 (as amended) and Regulation 41 of the Conservation of Habitats and Species Regulations, 2010, which transposes the Habitats Directive into UK law.

4.2. This makes it an offence to:

- deliberately kill, injure or take (capture) any bat
- deliberately disturb bats in such a way as to be likely significantly to affect:
  - the ability of any significant group of bats to survive, breed, or rear or nurture their young, or
  - the local distribution or abundance of that species.
- damage or destroy a bats breeding site or resting place.

- intentionally or recklessly damage, destroy or obstruct the access to any place used by bats for shelter or protection (even if bats are not in residence).

4.3. This legislation applies to all life stages.

4.4. The words 'deliberately' and 'intentionally' include actions where a court can infer that a defendant knew that an action would almost inevitably result in an offence, even if that was not the primary purpose of the act.

4.5. The offence of damaging or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

4.6. European Protected Species licences are available from Natural England under certain circumstances which permit activities that would otherwise be considered an offence.

4.7. Consequently, attention should be given to dealing with the modification or development of an area or structure if aspects of it may be deemed important to bats.

4.8. In terms of national conservation policy, 7 of the 17 British types of bat are priority species covered by Biodiversity Action Plans, which highlight the importance of certain habitats, detail the threats they face and propose measures to aid in the reduction of population declines.

4.9. The Camden Biodiversity Action Plan (BAP) is in the process of being reviewed[2]. Currently, it identifies bats as both priority and flagship species.

4.10. One of the actions within the Camden BAP is to:

Monitor all planning applications where bat roosts, foraging habitats or commuting routes may be affected

[2] http://www.camden.gov.uk/ccm/content/leisure/outdoor-camden/nature-in-camden/wildlife/introduction-to-the-camden-biodiversity-action-plan.en as on 27/8/11

Planning Policy

4.11. Planning Policy Statement 9 [3] states that:

> *... planning decisions should aim to maintain, and enhance, restore or add to biodiversity ... interests. In taking decisions, local planning authorities should ensure that appropriate weight is attached to ... protected species; and to biodiversity ... within the wider environment.*

4.12. A similar requirement is specified by the Camden UDP[4]:

> *In assessing planning applications, the Council will expect development schemes to have considered conserving and enhancing biodiversity, including by creating wildlife habitats.*

5. Methodology

5.1. The surveys were undertaken by Dr Greg Carson (NE licence no: 20104094), along with three (four for the initial dusk survey) experienced surveyors.

5.2. The dusk/dawn survey largely followed guidelines produced by BCT[5] (2007), with the dusk surveys commencing approximately 15 minutes before sunset and continuing 2 hours thereafter, and the dawn survey commencing 2 hours before, and continuing until, sunrise. Temperature and other climatic conditions were noted. Batbox 'Duet' heterodyne/frequency division (one linked to a Sony Hi-MD minidisk recorder, the other to an Eridol), Batbox 'Griffin' time-expansion (with dual frequency division & heterodyne audio output), Tranquility (used only in heterodyne mode) and Anabat (frequency division) detectors were used to assist in locating bats in flight as well as provide an indication of species. Broadband sound analysis was undertaken of recordings made from the Batbox 'Griffin' and 'Duet', as well as from the Anabat.

5.3. The activity survey focussed upon the two main buildings (following the results of the daytime survey). The Anabat was deployed in the garden to the rear of No. 368, placed in a shrub, facing both the summerhouse, the cherry laurel hedge and the large ash in the garden beyond. Given

[3] ODPM, August 2005

[4] London Borough of Camden, Replacement Unitary Development Plan, Adopted June 2006 (Saved Policies Version 2009)

[5] Bat Conservation Trust (2007). *Bat Surveys - Good Practice Guidelines*. Bat Conservation Trust, London.

the results of the daytime survey, the single-storey and modern nature of the summerhouse, and that a swift inspection revealed cobwebs occupying spaces beneath the barge boards, it was considered that direct observation was not required. However, it remained likely that the surveyor deployed to the rear of No. 368 would also be aware of any significant bat activity taking place close to the summer house in any event.

5.4. The Anabat also served as a 'control', directed towards the relatively dense vegetation in which it was most likely that bats would be flying / feeding.

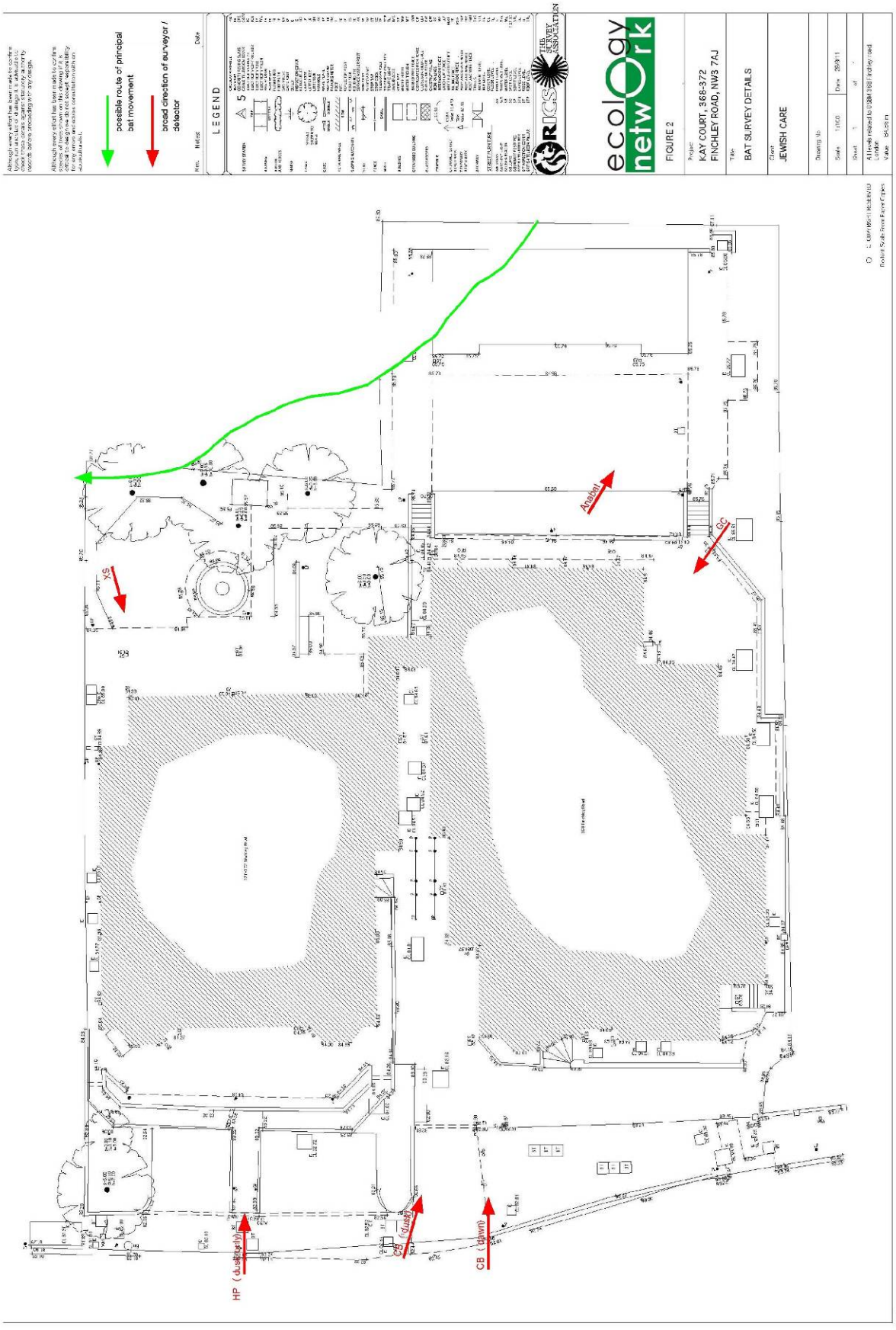
5.5. Temperatures were measured on-site using a K-type thermocouple thermometer. Light meter readings were made using a TES-1334A lightmeter. Unfortunately, all equipment was not synchronised prior to the initial surveys. However, on site the timepieces of all surveyors were synchronised, along with the Griffin. After the survey, these were checked against GMT, and the error on the Anabat noted. The figures given below have all been corrected to GMT.

6. Results

6.1. The position of each surveyor is shown on Figure 2. With the four surveyors, it was possible to get almost entire coverage of the aspect of both main buildings. In places, it was not possible to view the gable ends (which were the gaps between properties). However, should bats have been detected emerging/returning from these locations, there would be a high probability they would have been observed by the surveyors stationed to the east or west, who may then have been re-deployed to cover these aspects more closely. In the event, this did not prove necessary.

6.2. By the end of the dusk survey, it was concluded that coverage of the front of both main buildings could be undertaken by one surveyor, which was particularly appropriate given the strongly adverse environment of Finchley Road (where no bats were detected during dusk). All subsequent surveys were undertaken with three surveyors[6].

[6] For the September survey, the positions of XS and GC were interchanged, while a new surveyor (BA) was introduced on the front of the properties


possible route of principal bat movement
broad direction of surveyor / detector
LEGEND
ecology network
FIGURE 2
KAY COURT, 368-372 FINCHLEY ROAD, NW3 7AJ
BAT SURVEY DETAILS
JEWISH CARE
Appeal
GC
XS
HP (dusk/dawn)
CB (dawn)
CB (dusk)

6.3. The timing and climatic parameters associated with the surveys are tabulated below. The field observations are tabulated in an annex at the end of the report.

		date	time[7]	temp (ºC)	weather	light
emergence	start	21 Aug	19.55	20	warm, 10% cloud cover, clear blue sky, still & dry (had rained earlier in the day)	at time of 1st bat at NE survey point, 2.0 lux at SE survey point
	end	21 Aug	22.11	17		0.1 lux at at SE survey point
return	start	22 Aug	03.57	13	warm, 5% cloud cover, clear, still & dry	
	end	22 Aug	05.56	11		2.5 lux at 05.25 at SE survey point
emergence	start	13 Sep	19.06	16	warm, 5% cloud cover, clear blue sky, dry & intermittently breezy	
	end	13 Sep	21.20	12.5		

First activity survey

6.4. All the bats observed during both the dusk and dawn survey were pipistrelles, and all of those which were positively identified (either indicated by real-time heterodyne or by subsequent broadband analysis) were common pipistrelle *Pipistrellus pipistrellus*. During the dusk survey, the first bat was noted at 20.42 (half an hour after sunset) appearing from the south-east and heading north-west to the east of No. 370-372. At the NE survey point, further pipistrelle activity persisted for several minutes, following which faint, brief calls were heard for another ½ hr, after which, activity declined significantly. At around

[7] There was a slight variation of start time between surveyors. Those given are the latest in relation to the start and the earliest in relation to the finish. The exception was in relation to the front (west) of the properties, where on the 21st, the surveyors finished 1¾ hrs after sunset.

22.00, activity increased, when for about 5 minutes, bats were noted in the gardens of the two properties.

6.5. The Anabat picked up only one extremely brief and weak call, at 21.08, ie not corresponding to any of the manual observations. At no stage were any bats heard at the front (west) of the properties, and at no time was there any indication that the bats may have emerged from the main buildings.

6.6. The first bat noted during dawn was at 5.02 (about an hour before sunrise) by the surveyor stationed at the front of the house, flying S to N approximately overhead (ie at some distance from the properties).

6.7. Further activity was limited and sporadic, until about 5.25 (half an hour before sunrise) where for 5 mins it was concentrated largely at the NE survey point. One of the bats noted at this location may have been the same as that noted briefly at the SE survey point, which was also picked up by the Anabat.

Second activity survey

6.8. No bats were observed, or detected by any of the surveyors or the Anabat.

7. Discussion

7.1. For the first set of surveys, conditions were ideal, especially since it had rained earlier during the day. Throughout the survey, the brightly lit night sky would have facilitated observation of bats emanating from the buildings. Although it was slightly cooler during the second survey and initially breezy, conditions remained suitable for bats to emerge.

7.2. The siting of the properties on a main arterial urban road is not very conducive to bat activity, although the rear gardens to the properties and those adjacent offer some potential for feeding and possibly roosting.

7.3. This is reflected in the outcome of the first set of surveys, where only one pipistrelle was heard to the front (west) of the buildings. To the rear, pipistrelle activity was more prevalent, but nevertheless limited, mostly to two short periods during dusk (about half an hour and 2 hours after sunset) and about half an hour before dawn. That the pipistrelles were noted quite late (it is not uncommon to note them active 20 mins after

sunset or before sunrise), suggests that they are not roosting within the immediate vicinity.

7.4. It is also the case that the Anabat only picked up one pipistrelle during dusk and one during dawn during the initial surveys, despite the detector being positioned towards what may have been the most favourable habitat. Coupled with the observations of the two surveyors at the rear, this suggests that bats were in the main originating from further east than the garden of No. 370-372, and flying in a NW direction, over the garden of No. 368.

7.5. If any bats had been roosting in the summerhouse, it is likely that significantly greater activity would have been picked up by the Anabat (as well as the surveyor stationed at the SE point).

7.6. It was very clear however, that none of the activity observed emanated from the main buildings themselves.

7.7. Conditions during the September survey were suitable for bat activity, although not as favourable as those during August. The lack of bat activity during September is likely to reflect the impact of cooler temperatures and the slightly later time of year upon an already poorly used area.

8. Recommendations

8.1. Evidence gleaned from the first dusk / dawn surveys gives a strong indication that bats are not roosting in any of the buildings, and this was supported by observations during the second dusk survey, undertaken some 3 weeks later.

8.2. It is advised therefore that it is highly unlikely that bats would be a constraint to the demolition or development, and no further survey work would be required before the same.

8.3. However, should a period of greater than 2 years lapse before demolition, it is advised that both the daytime and nocturnal surveys are repeated to check if bats had become resident in the intervening period.

8.4. Finally, opportunities exist for low / no cost modifications to new build design in order to create environments favourable to bats, and thereby contribute to biodiversity enhancement. These may include approaches such as installation of bat bricks, and/or simply ensuring that

facia/barge boards are not sealed with mastic (gaps of around 1cm are sufficient to permit entry to pipistrelle bats).

9. Conclusion

9.1. It appears that bat activity in the vicinity of Kay Court is very limited and confined to that of common pipistrelle. The most likely origin of the bats observed is to the south / south-east of the properties.

9.2. At no stage were bats observed emerging from or returning to the buildings under observation, nor was there any indication that bats may have been roosting within these buildings. On the basis of the results it is unlikely that bats will be a constraint to development.

10. Annex - bat field data

11017	Kay Court, Finchley Rd - Activity survey, 21 Aug 2011						HP used a Duet, but heard nothing					
		GC - Griffin				Anabat		CB - Tranquility			XS - Duet		
Time	Sp	Direction	Tk	Comments	Sp	Comments	Sp	Direction	Comments	Sp	Direction	Tk	Comments
19:55				START					START appx				START appx
19:56													
19:57													
19:58													
19:59													
20:00													
20:01													
20:02													
20:03													
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20:05													
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20:08													
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20:41													
20:42										pi	From SSE-NNW		Appeared to c
20:43													
20:44													
20:45										pi		2	Did not emana
20:46										pi		3	
20:47													faint, brief pas
20:48													
20:49													
20:50	pi?		1	appx time; near XS									
20:51													
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20:54		with XS - walki-talki problem											
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21:01													
21:02													
21:03													
21:04													
21:05													
21:06													
21:07													
21:08					pi								
21:09													

Greg:
Appeared to come from across the tree line in front of the summer house and then diverted across the garden between the hammock and the house

Greg:
Did not emanate from the house; Not in view so probably behind/above the trees to the east

Greg:
faint, brief passes, until 21.25

21:10														
21:11														
21:12														
21:13														
21:14														
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21:16														
21:17														
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21:19														
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21:22														
21:23														
21:24	pi			2	1st bat; prob to east									
21:25												pi		4
21:26														
21:27		battery to XS												
21:28														
21:29														
21:30														
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21:32														
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21:34														
21:35														
21:36												pi?		8
21:37		covering for XS												
21:38														
21:39												pi?		noted by Greg
21:40														
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21:58	pi			3 & 4	appx time									
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22:06	pi			5								pi		13 & 14
22:07														
22:08	pi			6										
22:09												pi		15 & 16
22:10														
22:11	pi			7	appx time; END									
22:12														
22:13														
22:14														
22:15														

11017	Kay Court, Finchley Rd - Activity survey, 22 Aug 2011												
		GC - Griffin				Anabat		CB - Tranquility				XS - Duet	
Time	Sp	Direction	Tk	Comments	Sp	Comments	Sp	Direction	Comments	Sp	Direction	Tk	Comments
03:46						ON							
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03:57				START									
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05:04														
05:05														
05:06														
05:07				First (black)bird song										
05:08														
05:09										pi			22	
05:10														
05:11														
05:12														
05:13														
05:14														
05:15														
05:16														
05:17														
05:18														
05:19														
05:20														
05:21														
05:22														
05:23														
05:24														
05:25	pi		8	2.5 lux; XS alspi										
05:26														
05:27										pi?			23 & 24	
05:28														
05:29														
05:30										pi			25	
05:31										pi			26	Not visible, jd
05:32														
05:33														
05:34														
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05:36														
05:37														
05:38														
05:39														
05:40														
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05:49														
05:50														
05:51														
05:52														
05:53														
05:54														
05:55														
05:56				END / SUNRISE										
05:57														
05:58														
05:59														
06:00														
06:01														
06:02														
06:03														
06:04						OFF								

Greg:
Not visible, just picked up on the detector.
Considerable foraging for a couple of minutes, lasting a minute or two. Very faint quick passes. Would have been visible if over the building or the trees behind me, but was not observed

11. Report conditions

11.1. This report is produced solely for the benefit of Land Use Consultants and Jewish Care and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing otherwise.

11.2. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ecology Network Ltd. In time, improved practices, new information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Ecology Network Ltd using due skill and care in the preparation of the report.

11.3. This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

11.4. This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

11.5. Reliance has been placed on the documents and information supplied to Ecology Network Ltd by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

11.6. Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information, particularly due to timescale, seasonal and weather related conditions. Thus we cannot guarantee that the survey or monitoring undertaken as part of the commission completely define the degree or extent of, for example, species abundance or habitat management efficacy which may be described.

11.7. Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Actual environmental conditions are typically more complex and variable than the investigative approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

11.8. The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

11.9. The performance of environmental mitigation measures is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Ecology Network Ltd accept no liability for issues with performance arising from such factors.