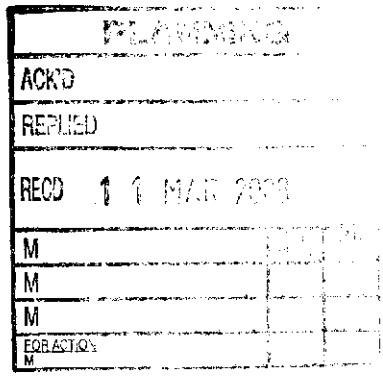
Beswick Regeneration, Manchester

Phase 2

Bat Survey



A Report for Gleeson Homes

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Executive Summary

A survey was conducted to establish whether bats were foraging, commuting or roosting in the Beswick Regeneration Phase 2 development area.

Two survey visits were made to the site on June 18th and June 27th 2007. External inspections of buildings were carried out during daylight and did not reveal any signs of bats roosting within the development area. Internal inspections were not possible at this stage as the majority of the buildings were still occupied.

During the emergence and activity surveys, common pipistrelle bats were recorded foraging and commuting around trees and tall grass within the development area, with most of the activity was concentrated in the west of the site. It is estimated that a population of up to ten bats were foraging in this area. Bats arrived at the site approximately 22 minutes after sunset from the south-west, which suggests that they were roosting in close proximity but not on the site itself.

Because bats may frequently change their roost site and because the roosts of small crevice dwelling species such as pipistrelle may be very difficult to locate, it is recommended that further internal and external inspections of buildings be carried out prior to demolition. If any mature trees are to be removed, then further surveys of these will also be required. Furthermore, if any unexpected discoveries of bats are made at any stage of the project, work in the vicinity should be halted immediately and advice sought from a suitably qualified ecologist and/or Natural England.

In order to maintain the local status of bats, it is recommended that landscaping within the new development be designed to maintain and enhance the suitability of the site for foraging bats. This would involve:

- Retaining as many as possible of the existing tree groups, particularly those identified as bat feeding areas.
- Carrying out new planting of (predominantly) native trees and shrubs to create linear belts of habitat (e.g. hedges, treelines) and create linkages that allow bats to fly between areas of existing habitat.
- Carefully designing lighting to avoid too much light pollution/spillage in important bat feeding areas.

Consideration should also be given to providing new bat roosting opportunities as part of the regeneration project. This could take the form of bat boxes erected on trees or buildings, or roosting spaces designed into new buildings.

1. Introduction

1.1 BACKGROUND

Ecology Consultancy Ltd. (ECL) was commissioned by Gleeson Homes to carry out a bat survey of land forming Phase 2 of the Beswick Regeneration Project.

Phase 1 of the Beswick Regeneration project is already under way and a bat survey conducted for this during August 2006 (ECL 2006) confirmed that common pipistrelle *Pipistrellus pipistrellus* bats were foraging in the area. Additional bat emergence and activity surveys for the Phase 2 area were therefore requested by the Greater Manchester Ecology Unit (GMEU). This report presents the results of those surveys, which were carried out during June 2007.

1.2 LEGISLATION

All bat species in Britain are protected through their inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation (Natural Habitats &c.) Regulations 1994. The Act and Regulations make it an offence to kill, injure, capture or disturb bats or to obstruct access to, damage or destroy bat roosts. Under the law, a roost is any structure or place used for shelter or protection. Because bats tend to re-use the same roosts, the roost is protected whether or not the bats are present at the time.

The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Since September 2000, building development that affects bats or their roosts requires a European Protected Species Licence under the Habitats Regulations, administered in England by Natural England.

2. Survey and Site Assessment

2.1 DESK TOP STUDY

Information regarding the current status of bats in the area was requested in 2006 from the Greater Manchester Ecology Unit and South Lancashire Bat Group.

2.2 FIELD SURVEY

The field survey combined a daylight inspection of buildings in the Phase 2 development area for signs of bat roosts with two night time emergence and activity surveys. Methodology complied with best practice guidance recommended by the Bat Conservation Trust (2007).

The external surfaces of buildings and trees were carefully examined with binoculars for any signs of use as bat roosts, such as the presence of droppings on walls, windows or staining around roost entrances. The use of a building by a colony of bats will usually reveal evidence, in the form of staining or droppings on surfaces close to, and particularly beneath, the roost entrance. Because many of the buildings are still occupied as private residencies, no internal inspections were carried out on this occasion.

Bat emergence and activity surveys were undertaken on the evenings of 18th and 27th June 2007, as follows:

Table 1: Survey Dates and Times

Date	Start time	Finish time	Sunset time
18/06/07	22.15	00.10	21.38
27/06/07	21.30	23.30	21.42

Survey 2 commenced 15 minutes before sunset and lasted for 2 hours. Survey 1 was delayed for c. 45 minutes due to rain before sunset, so the transect was walked for approximately 2 hours after the rain had finished.

The transect survey was walked along a predefined route at a steady speed. It incorporated 10 listening stations interspersed along the chosen route and each listening station stop lasted 3 minutes. The transect encompassed the majority of the Phase 2 area. The transect route is shown on Figure 1, Appendix 1.

A Bat Box Duet frequency division and heterodyne bat detector was used, linked to an EDIROL digital recorder, together with a Magenta heterodyne bat detector. All bat contacts were recorded and the data saved for later analysis.

2.3 WEATHER CONDITIONS

Weather conditions on the 18th June were initially wet with moderate rain, but cleared c. 35 minutes after sunset. Thereafter, conditions were warm and still for the transect and the temperatures ranged from 12°C to 8°C. On the 27th June conditions were less favourable; although dry, there was a moderate wind and temperatures were cooler, ranging from 11°C at the beginning of the survey and dropping to 6°C at the end.

2.4 PERSONNEL

Two surveyors were used on each occasion, Sam Phillips and Steve Garland. Both surveyors have had extensive experience carrying out bat surveys and other bat related work. Steve Garland was a bat licence holder for ten years whilst working with the South Lancashire Bat Group.

2.5 CONSTRAINTS

It should be noted that whilst every effort has been made to provide an accurate survey of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. Furthermore, droppings and other signs of bat presence may not be found during routine, non-invasive surveys and as a result bat roosts can be difficult to detect.

Rain delayed the first survey, but the weather conditions after the rain were considered suitable for bats to be active. The moderate wind on the second survey probably caused the bats to forage in more sheltered areas, where the insect activity was greatest.

3. Site Context & Status

The Beswick Regeneration Project is located in East Manchester. It involves the provision of over 1000 new homes, new retail spaces, schools and public open space. It is bounded to the south by the A635 Ashton Old Road, to the east by the A6010 Alan Turing Way, to the north by Albert Street and to the west by Rylance Street. The grid reference at the centre of Phase 2 of the project is SJ 867 977.

The majority of the Phase 2 development area is amenity grassland with scattered mature trees and shrubs, there is a small area of semi-improved neutral grassland to the north-west. To the east of the site there is a retail area, and to the south there are a number of houses, some of which are still occupied (see Phase 2 habitat survey report, ECL 2007).

4. Survey Results

4.1 DESK TOP STUDY

The Greater Manchester Ecology Unit and the South Lancashire Bat Group did not hold any records of bats within a search area of 1km surrounding the site.

It is important to note that a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

4.2 ROOST SURVEY

Most of the trees on the site are young, immature specimens and generally lack the cavities, cracks etc. which might be utilised by roosting bats. However, detailed tree inspections were beyond the scope of the present study, so the occurrence of suitable roosting sites in some of the larger trees cannot be totally discounted.

Most of the buildings within the site are two-storey dwelling houses of brick construction with pitched, tiled roofs. These provide potential bat roosting sites e.g. in the roof voids, beneath tiles etc. However, most are in good repair with few or no places where bats could gain entry. No obvious signs of bat roosts in the buildings were seen during the non-invasive survey of buildings. Internal and external inspections of a number of similar properties in Phase 1 failed to find any evidence of use by bats (ECL 2006).

4.3 EMERGENCE AND ACTIVITY SURVEY

During the first survey on 18th June the first bat, a common pipistrelle, was located at 22.34 next to listening station C, which is located on the western boundary of the Phase 2 area. On this occasion the onset of bat activity – and hence the survey – had been delayed by rain around sunset.

On the second survey on the 27th June the first bats arrived at 22.04 between listening stations D and E, located on the south-western margin of the Phase 2 area.

On both surveys there were a number of feeding and commuting contacts in the vicinity of the neutral grassland, amenity grassland and mature trees in the western part of the site (see Figure 1, Appendix 1 and Appendix 2 for photographs). During survey 1, bat commuting contacts were also made close to the retail centre to the north-east of the development area and one contact was made outside the development area on Grey Mare Lane, close to some trees. On survey 2 further commuting and feeding contacts were made underneath the mature trees, close to station A in the north-central part of the area, and a single commuting contact was made at listening station I, to the north of the site.

The majority of the foraging activity was located near to the trees and grassland to the west of the site and there were numerous feeding buzzes in this area. The results of the activity surveys are summarised in Tables 1-4 below.

Table 1. Listening station results for survey 1 (18/6/07)

Station	Time	Species	Activity	No. passes	Habitat
C	22.34	Common pipistrelle	Commuting and feeding	3	Tall grass and trees
D	22.48	Common pipistrelle	Feeding	7+	Tree line
E	22.57	Common pipistrelle	Feeding	7+	Tree line
H	23.17	Common pipistrelle	Commuting	1	Planted shrubs
A	23.31	Common pipistrelle	Commuting and feeding	1	Tree line and amenity grassland
D	23.57	Common pipistrelle	Commuting	4	Tree line

n.b. those listening stations not listed above did not have any bat contacts

Table 2. Walked transect results for survey 1 (18/6/07)

Time	Species	Activity	No. passes	Habitat
22.38	Common pipistrelle	Commuting and feeding	1	Tall grass, tree line
22.39	Common pipistrelle	Commuting and feeding	1	Tall grass, tree line
22.52 - 22.57	Common pipistrelle	Feeding	7 +	Trees
23.23	Common pipistrelle	Commuting	1	Near retail area
23.41	Common pipistrelle	Commuting	1	Trees
23.49	Common pipistrelle	Feeding	1	Trees and grassland

Time	Species	Activity	No. passes	Habitat
23.50	Common pipistrelle	Feeding	1	Trees and grassland
23.52	Unidentified	Commuting	1	Trees
23.56	Common pipistrelle	Commuting and feeding	1	Trees
0.01	Common pipistrelle	Commuting	1	Trees

Table 3. Listening station results for survey 2 (27/6/07)

Station	Time	Species	Activity	No. passes	Habitat
D	22.07	Common pipistrelle	Commuting	1	Tall grass and trees
E	22.17	Common pipistrelle	Commuting and feeding	2	Tall grass and trees
I	22.40	Common pipistrelle	Commuting	1	Treeline
A	22.47	Common pipistrelle	Feeding	6	Tall grass
C	23.00	Common pipistrelle	Commuting	1	Treeline

n.b. those listening stations not listed above did not have any bat contacts

Table 4. Walked transect results for survey 2 (27/6/07)

Time	Species	Activity	No. passes	Habitat
22.04	Common pipistrelle	Commuting and feeding	4+	Tall grass, tree line
22.11	Common pipistrelle	Commuting	1	Tall grass, tree line
22.13	Common pipistrelle	Feeding	6	Trees
22.46	Common pipistrelle	Commuting and feeding	2	Mature trees
23.05	Common pipistrelle	Commuting	2	Trees
23.13	Common pipistrelle	Feeding	4	Trees and grassland
23.16	Common pipistrelle	Commuting and feeding	3	Trees and grassland

5. Discussion & Recommendations

The results of the current survey indicate that parts of the Beswick Phase 2 area are utilised by common pipstrelle bats for foraging purposes, with an estimated ten bats visiting and feeding in the area. The western part of the site, which contains a number of trees, amenity grassland and an area of rough grassland developed on the site of a former school, appears to be the most important in this respect.

Common pipistrelles emerge early from their roosts, often in daylight, and fly directly to their foraging areas (Altringham 2003). The weather conditions during the first survey delayed the emergence of bats and the survey, therefore the time of first appearance of bats cannot be clearly associated with distance from the roost site. However, on the second survey the first bats appeared at 22.04 hrs, approximately 22 minutes after sunset, and arrived from the south-west. This strongly suggests that, on this occasion at least, the bats observed were roosting nearby but off-site.

The survey provided no evidence to suggest that bats were roosting in any of the buildings or trees within the Phase 2 development area. However, bats may frequently change their roost site and the roosts of small crevice dwelling species such as pipistrelle can be very difficult to locate. For these reasons the results of the survey should not be taken as providing definitive evidence of the absence of bat roosts. Therefore further inspections for bats are recommended before works commence on site, as follows:

- Internal and external inspections of all buildings scheduled for demolition and refurbishment, to be carried out as they are vacated.
- Detailed assessments of any mature trees that are to be removed or otherwise impacted by the development (e.g. through pruning, placement of buildings, lighting etc). This would involve a ground based assessment to identify potential roosting features, if necessary combined with sunrise swarming surveys and/or climbing inspections.

The common pipistrelle is one of the commonest and most widespread bat species in the UK, with an estimated population of c. 2,430,000 (BCT 2005).

They are frequent in East Manchester, which is thought to support locally important populations of the species. There is a species action plan for bats in the Greater Manchester Biodiversity Action Plan (http://www.gmbiodiversity.org.uk/). The key objectives of the latter are to:

- Determine the current distribution of bats in Greater Manchester.
- Maintain the distribution and range of bat populations and habitats in Greater Manchester and prevent further losses and fragmentation.
- Increase the distribution and abundance of bats and suitable habitats in Greater Manchester without reducing the area of other valuable habitats and species.

Until recently, the common pipistrelle was a Priority Species under the UK Biodiversity Action Plan (UK Steering Group 1995). However, the population of this species is now considered to be stable (BRIG 2007) and it has been removed the list of Priority Species in the UK BAP. It is, however, still listed as a Species of Principal Importance for Biodiversity under section 74 of the Countryside and Rights of Way Act 2000, at least until such time as the next update of the list.

In order to maintain the local status of bats, and to help fulfil the objectives of the Greater Manchester BAP, it is recommended that landscaping within the new development be designed to maintain and enhance the suitability of the site for foraging bats. This would involve:

- Retaining as many as possible of the existing tree groups, particularly those identified as bat feeding areas.
- Carrying out significant new planting of (predominantly) native trees and shrubs, where possible to create linear belts of habitat (e.g. hedges, treelines) and create linkages that allow bats to fly between areas of existing habitat.
- Carefully designing lighting to avoid too much light pollution/spillage in important bat feeding areas. This is not too critical with pipistrelles, which often feed around street lights, but could be a factor if other, lighting sensitive, species occur in the area.

The proposed school playing fields and other open spaces could provide significant opportunities for enhancing the quality of bat habitat in this way.

Consideration should also be given to providing new bat roosting opportunities as part of the regeneration project. This could take the form of bat boxes erected on trees and buildings, or roosting spaces that are designed into new buildings.

References

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UK Steering Group 1995 *Biodiversity: The UK Steering Group Report, Volume 2: Action Plans*, HMSO, London.

Appendix 1: Figures

Key
Amenity grassland
Dense scrub
Scattered trees
Neutral grassland
Ephemeral/short perennial vegetation
Phase 2 boundary
Transect route
Area of bat contact
45 pip 2220
Common pipistrelle contact (with time)
G
Listening station
Bat Survey
18/6/07
Not to scale
Based on drawing G/01/01 prepared by Triangle Architects July 2006
NORTH
45 pip 2317
45 pip 2323
45 pip 2341
45 pip 2331
45 pip 2238
45 pip 2239
45 pip 2349
45 pip 0001
45 pip 2252-2257
45 pip 2246
45 pip 2354
45 pip 2239
A
B
C
D
E
F
G
H
I

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NORTH
A
B
C
D
E
F
G
H
45 pip 2220
45 pip 2246
45 pip 2247
45 pip 2316
45 pip 2313
45 pip 2217
45 pip 2313
45 pip 2204
45 pip 2306
45 pip 2313
45 pip 2211
45 pip 2207

Appendix 2: Photographs

Photograph 1
Amenity grassland with planted trees in the east of the site. Few bats were recorded in this area.



Photograph 2
Football pitch in the western part of the site, off Charlesworth Street. Pipistrelle bats were regularly observed foraging along the treelines on the margin of the site



Photograph 3
Rough semi-improved neutral grassland with planted trees on the site of the former Ashbury County Primary School, in the west of the site. Located immediately north of the football pitch pictured above, this was another good area for foraging bats



Appendix 3: Legislation

All bat species and their roost sites are given full protection under Schedule 5 of the Wildlife & Countryside Act 1981 and Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994. The Act and Regulations make it an offence to:

- intentionally or deliberately kill, injure or capture (take) bats;
- deliberately disturb bats (whether in a roost or not);
- damage, destroy or obstruct access to bat roosts;
- possess or transport a bat or any other part of a bat, unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

If a bat roost is to be affected by development activities, a European Protected Species licence from Natural England will need to be obtained prior to undertaking any damaging activity. In order to obtain a licence the following tests must be met:

- The development is for the purpose of "preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment";
- There is no satisfactory alternative;
- The development will not be "detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range."