

Bat Survey Report

Better Barnsley

April 2017

Barnsley Council



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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
P1	13 August 2015	A. Noble	J. Vulliamy	F. Kilmurray	First Draft
P2	07 April 2017	K Waite	P Renshaw (MCIEEM)		Second issue

Information class: Standard

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Executive Summary

Mott MacDonald Limited was commissioned by Barnsley Metropolitan Borough Council to undertake bat surveys as part of a redevelopment scheme in the centre of Barnsley. The proposed development comprises the demolition and redevelopment of a number of buildings within the city centre including multi-storey car parks, the Training and Enterprise Centre, the old Council offices and the Market Hall.

Bat surveys were commissioned based on the results of a Preliminary Ecological Appraisal (PEA) of the site undertaken by Mott MacDonald in January 2015 (343537/BNI/YHE/3/A). The surveys were required to support the proposed redevelopment of the site.

Two transect surveys were undertaken during the 2015 bat survey season on 2 June 2015 and 7 July 2015. There were no bats recorded during either survey transect of the site with both surveys being undertaken in optimal conditions.

The majority of habitats within the site extents include buildings and hardstanding with a small patch of amenity grassland and a few scattered ornamental trees. These habitats have limited potential to support foraging bats and have no potential to support roosting bats. However, the railway lines to the south of the site could be used as a potential commuting route.

The recommendations given during the PEA to enhance the site for bats included measures such as incorporating bat bricks into buildings which would improve the currently limited roosting features for bats. Consideration should be given to lighting (where operational constraints allow) to maintain and improve the area for commuting bats and encourage them to use the new roosting features.

1 Introduction

1.1 Project Background

Mott MacDonald Ltd was appointed by Barnsley Metropolitan Council to undertake bat transect surveys on an area of Barnsley town centre being redeveloped, hereafter referred to as 'the Site', which is located at National Grid Reference SE 347 063. A site location plan is provided in Appendix A.

Bat surveys were commissioned based on the results of a Preliminary Ecological Appraisal (PEA) of the Site undertaken by Mott MacDonald in January 2015. The survey was required to support the proposed redevelopment of the Site, as part of the Better Barnsley Scheme. This bat survey report encompasses both Phase 1 and Phase 2 of the Scheme, which comprises of the demolition of several buildings within the city centre, including multi-storey car parks, the TEC Centre, the old Council offices, and the Market Hall, followed by the development of new buildings. Phase 1 of the scheme includes construction of a new market hall, library, shopping units and a new public square. Phase 2 includes a new cinema, offices, and a multi-storey car park.

Scope of the Report

The PEA of the Site (Mott MacDonald, May 2015) identified that foraging and/or commuting bats could be impacted or disturbed by the planned redevelopment.

The aims of the study were therefore:

- to undertake activity transect surveys to identify which parts of the Site are important to bats;
- to assess the value of the Site for use by bats for foraging and feeding;
- to analyse the survey data to determine the species present and assess the levels of bat activity in the area; and,
- to provide recommendations for any necessary additional survey work and mitigation measures required to offset any impacts caused by the development work including recommendations as to any licensing requirements.

To fulfil the above brief, two bat activity transects were undertaken on 2 June 2015 and 7 July 2015.

2 Methodology

2.1 Overview

The study comprised two phases: a desk study consultation exercise and two activity transect surveys of the Site and the immediate surrounding area. By combining the two phases it is possible to identify and evaluate the potential value of the Site for bats in order to recommend any additional survey work and determine the potential impacts of the proposed development.

2.2 Desk Study

Sheffield City Ecology Unit was contacted to perform a data search to determine the presence of records of bats within 1.5km of the proposed redevelopment. In addition, data was collected from online databases including the Multi-Agency Geographic Information for the Countryside (MAGIC), Joint Nature Conservation Committee (JNCC) and the Barnsley BAP.

2.3 Surveys

The PEA of the Site (Mott MacDonald, May 2015) determined that there were no suitable roosting features for bats within the site due to intact brick work, lack of roof and loft space and the use of lighting. However, the demolitions could cause impacts or disturbance on bats foraging and/or commuting in the vicinity so two dusk bat activity surveys were commissioned.

The aim of the activity surveys was to assess the general levels of bat activity across the Site. A transect was walked for each survey which covered all areas of the Site and the immediate surrounding area to provide a full picture of bat activity throughout the site.

Surveys were undertaken by experienced Mott MacDonald ecologists in accordance with Bat Conservation Trust (BCT) Good Practice Guidelines (Hundt 2012). The guidelines state that in areas classified as small (<1ha) which have low habitat quality there is a single activity transect required on two separate visits (Hundt 2012). Dusk activity surveys commenced 15 minutes before sunset and finished after a transect had been walked with frequent stopping points. Surveys were conducted in optimal weather conditions: dry, little wind and with an overnight temperature of above 10°C.

The dusk activity surveys were undertaken by two surveyors walking a pre-determined transect route (see Activity Survey Transect Map, Appendix C) around the redevelopment site in the town centre and the immediate surrounding area. The route was walked at a steady pace with stops of 5 minutes at eight predetermined Listening Stations during the first survey and nine during the second (LS1 – 9). The surveyors carried a BatBox Duet detector and Edirol/ Zoom recorder. Any bat activity was noted by the surveyor, including time, location, possible species, activity type (emergence/foraging/commuting/social calls), number of passes, and where bats were seen their flight paths were mapped.

2.4 Limitations

Biological records obtained from third parties and presented in the desk study do not represent a full and complete species list for the area. They are mostly given by individuals on an ad hoc basis, often meaning there are areas of deficiency in the data.

3 Legislation

3.1 Legislation

Throughout Britain, bat numbers have suffered a decline in recent years and, as a result, all species of British bat are protected by United Kingdom (UK) and European (EU) legislation.

All species of British bats and their roosts are fully protected under Schedule 5 of the Wildlife & Countryside Act 1981 (WCA) with additional protection offered under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (CHSR). This makes it an offence to kill, injure or disturb bats or obstruct access to, damage or destroy bat roosts. Under this legislation, a roost is determined as any structure or place used for shelter. As bats tend to reuse the same roosts, the roost is protected whether the bats are present at the time or not.

The Government Circular which supports National Planning Policy Framework states that 'local authorities should take steps to further the conservation of habitats and species of principal importance through their planning function.' The habitats and species subject to this duty are those listed as priorities under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

3.2 Status of Bat Species at the National Level

Historically, severe declines in bat populations have been reported, and bats have yet to recover from these losses. Seven of the British bats are listed as Priority Species in the UK Biodiversity Action Plan (UKBAP) (2007), including the soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*) and brown long-eared (*Plecotus auritus*), which are the species most likely to be found at the site.

3.3 Status of Bats at the Local / Regional Level

There are eighteen species of bat in the UK, seventeen of which are known to breed in the UK. Nine species of bat have been recorded in Barnsley and are listed on the Local BAP. The bat species considered to be resident within the Barnsley district are outlined below.

- Brandt's bat (*Myotis brandtii*);
- Daubenton's bat (*Myotis daubentoni*);
- Natterer's bat (*Myotis nattereri*);
- Whiskered bat (*Myotis mystacinus*);
- Noctule;
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle;
- Leisler's Bat (*Nyctalus leisleri*); and
- Brown long-eared bat (*Plecotus auritus*).

3.4 Current Factors Causing Loss or Decline in Barnsley

British bats are insectivorous, occupying many habitat types. They require warm summer breeding roosts and cool, secure hibernation sites. The main factors currently causing loss or decline in the Barnsley area include:

- the disturbance and loss of roost sites due to building repair and improvement (e.g. Roof repair, fascia and soffit replacement);
- the disturbance and loss of roost sites due to development (e.g. house extensions, barn conversions, demolition and tree pruning/ felling);
- the use of toxic timber treatment chemicals in buildings;
- the loss of feeding habitat through changes in land use, agricultural management or development resulting in the loss of insect-rich habitats, wetlands and meadows; and
- the loss of linear landscape features such as trees and hedgerows which provide commuting routes from roosts to feeding areas.

4 Results

4.1 Desk Study

There are no European Special Area of Conservation (SAC) designations for bat protection located within 30km of the Site. One Local Wildlife Site (LWS), Old Mill Lane, which supports a Daubenton's bat maternity roost of national importance, was located 0.9 km north of the Site. Common pipistrelles were also abundant at this LWS and were found to be foraging throughout the site.

Table 4.1 details the bat records within 1.5km of the site provided by Sheffield City Ecology Unit. There were 12 records of unidentified bats which were not included. The closest of these was 1.2km from the site.

Table 4.1: Summary of bat species within 1.5km of the Site

Species	Number of records	Most recent record	Proximity of most recent record to the Site	Proximity of nearest roost to the Site	UK BAP	Local BAP
Daubenton's bat (<i>Myotis daubentonii</i>)	40	2003	1.48km north east		✗	✓
Noctule (<i>Nyctalus noctula</i>)	7	1992	1.5km north	N/A	✓	✓
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	35	2013	1.3km south	N/A	✗	✓
Unknown Pipistrelle (<i>Pipistrellus spp.</i>)	5	2001	1.3km south		N/A	✓

Source: Sheffield City Ecology Unit

4.2 Survey Results

There was no bat activity recorded throughout the Site in either transect. It was noted by the surveyors that the town centre was well lit at night which is likely to deter bats from roosting or foraging around the Site.

5 Interpretation and Recommendations

5.1 Interpretation

The majority of habitats within the site extents include buildings and hardstanding with a small patch of amenity grassland and a few scattered ornamental trees. These habitats therefore have limited potential to support foraging and roosting bats, and no bat activity was observed during the surveys. The results of the surveys therefore indicate that the proposed redevelopment has no potential to affect foraging or roosting bats. However, the railway lines immediately to the south of the site could be used as a potential commuting route by bats moving between roosting and foraging sites. The railway will not be affected by the proposed works but could be used as a base for any future mitigation measures planned for the area.

5.2 Recommendations

Under the NERC Act 2006, public authorities have a duty to conserve biodiversity. The act 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".

Therefore, in order to ensure that Barnsley Council fulfils its duty under the Act, the enhancement measures below are recommended:

- bat bricks (e.g. Schwegler Bat Tube 1FR) could be incorporated into buildings which would improve the currently limited roosting features for bats; and
- consideration should be given to lighting (where operational constraints allow) to maintain and improve the area for commuting bats and encourage them to use the new roosting features. This would include the use of hoods and louvres to direct light away from potential bat roosting, foraging and commuting habitat.

6 References

Hundt, L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd Edition, Bat Conservation Trust, London.

Mott MacDonald. (2015). Preliminary Ecological Appraisal. Better Barnsley

Multi-Agency Geographic Information for the Countryside (MAGIC) website: <http://magic.defra.gov.uk/>

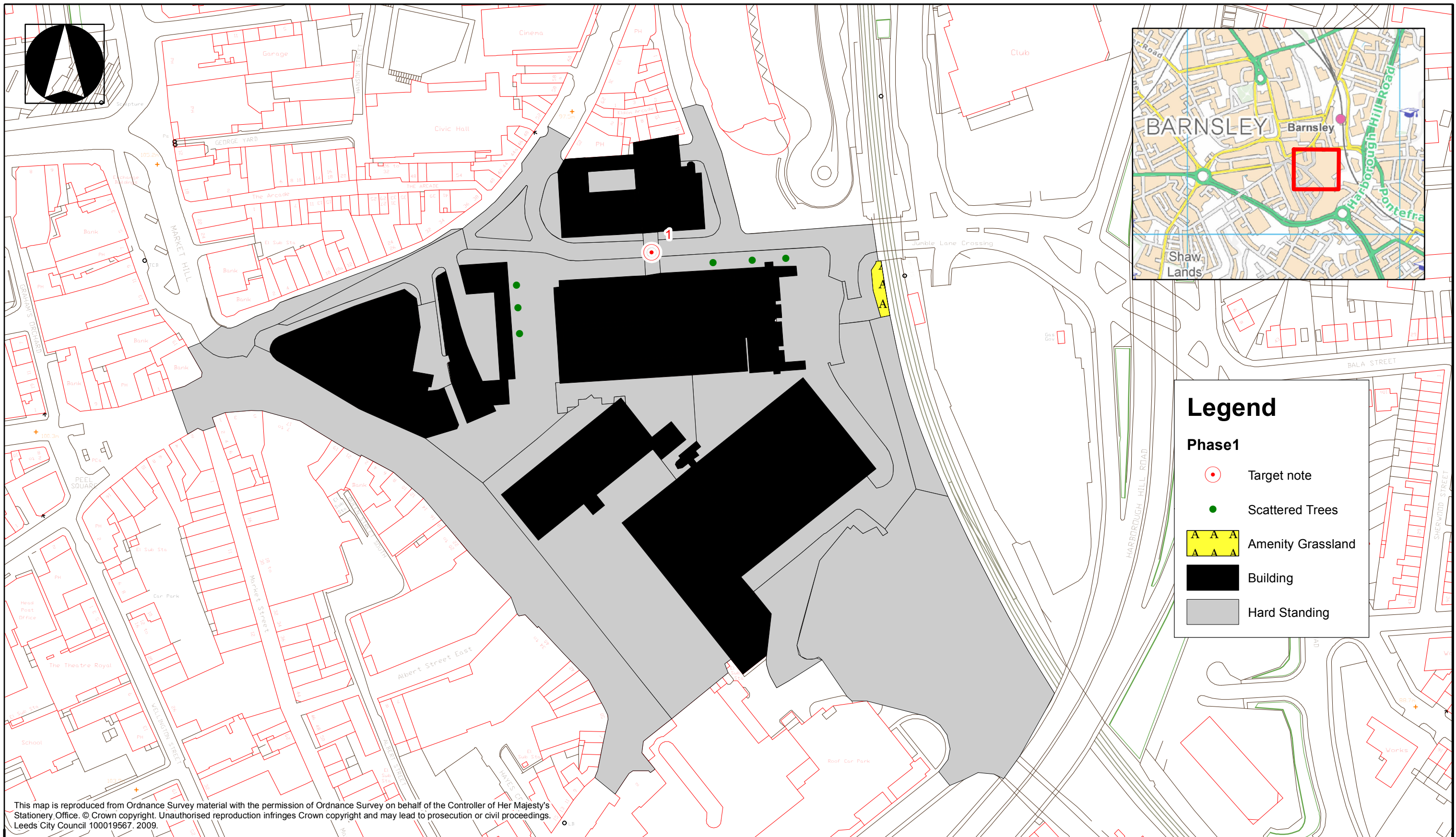
National Planning Policy Framework (2012). Department for Communities and Local Government.

Sheffield City Ecology Unit - Data received on the 5 May 2015

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Appendix A. Site Location Plan



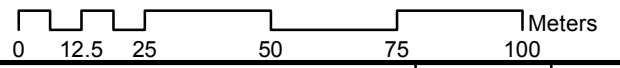
Legend

Phase 1

- Target note
- Scattered Trees
- Amenity Grassland
- Building
- Hard Standing

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Rev	Date	Drawn	Description	Ch'k'd	App'd	Title
A	22/01/2015	SC	Drawing Created	PR	RDS	Phase 1 Map of Barnsley

Drawn	SC
Checked	PR
Approved	RDS
Scale at A3	
1:1,500	
Rev	Status
A	

Drawing No.
343537DD04A

Appendix B. Site Photographs

Table C.1: Site Photographs



Photo Number	Details	Photo Reference
1	Footbridge between two buildings	
2	Multi-storey car park	



Photo Number	Details	Photo Reference
3	Multi-storey car park with markets underneath	
4	Training and Enterprise Centre building with walkway over road	

Photo Number	Details	Photo Reference
5	Council offices	 A photograph of a modern, multi-story building with a facade of colorful windows in shades of blue, green, and red. The building is identified as the Metropolitan Centre. In the foreground, there is a street with traffic signs and a utility pole. The sky is overcast.
6	TEC building	 A photograph of a brick building with a prominent corner section. The corner section is a tall, narrow brick tower with the letters 'TEC' written vertically on its side. The main part of the building has a grid of windows. In the foreground, there is a street with a white car and a person walking. The sky is overcast.

Appendix C. Bat Activity Survey Transects

