M3 Junction 9 Improvement

Scheme Number: TR010055

6.3 Environmental Statement Appendix 8.1q - Bat Trapping Survey Report 2021

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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M3 Junction 9 Improvement
Development Consent Order 202[x]

6.3 ENVIRONMENTAL STATEMENT- APPENDIX 8.1q: BAT TRAPPING SURVEY REPORT 2021

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Document Control

The Project Manager is responsible for production of this document, based on the contributions madeby his/her team existing at each Stage.

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Author	Duncan McLaughlin
Owner	
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Revision History

This document is updated at least every stage.

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The Project SRO is accountable for the content of this document.

Name	Signature	Title	Date of Issue	Version
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M3 Junction 9 Improvement

Bat Trapping Survey 2021

HE551511-VFK-EBD-X_XXXX_XX-RP-LE-0006

On behalf of **Highways England**

Project Ref: 48176 | Rev: P01 | Date: July 2021

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Document Control Sheet

Project Name: **M3 Junction 9 Improvement**

Project Ref: **48176**

Report Title: **Bat Trapping Survey 2021**

Doc Ref: **HE551511-VFK-EBD-X_XXXX_XX-RP-LE-0006**

Date: **08 July 2021**

	Name	Position	Signature	Date
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For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
P01	08/07/2021	For Review and Comment	IDW	DDW/DM	AS

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1 Introduction

1.1 Background

1.1.1 Stantec UK has been commissioned by Volker Fitzpatrick to undertake advance bat surveys for the M3 Junction 9 Improvement Scheme (the Site). Highways England is progressing with the Proposed Scheme to the east of Winchester in Hampshire.

1.1.2 The surveys were commissioned following acoustic bat activity surveys in the summer of 2017 which recommended further surveys to determine which species of Myotis bat are using the Site (WSP, 2017).

1.1.3 Although acoustic surveys have many advantages, they have limitations in determining the identification of certain species groups such as Myotis. This genus includes both some of the most abundant species (Myotis daubentonii/Myotis nattereri) and some of the UK's rarest species (Myotis bechsteinii/Myotis alcathoe); all these species have overlapping echolocation call parameters i.e. they can be very similar. Both of the latter rare species are known to occur in Hampshire.

1.1.4 Davidson-Watts Ecology Ltd was commissioned by Stantec to undertake advanced (trapping) surveys of areas of woodland at Junction 9, M3 near Winchester, with the aim of catching and identifying any Myotis bats that might be present.

1.2 Survey Location and Broad Description

1.2.1 Surveys were focused on an area of agricultural land to the south of the River Itchen corridor, and between the A34 and M3 (see **Figure 1**) where elevated levels of Myotis bats had been recorded during 2017.

1.2.2 The approximate central grid reference of this areas is SU495310. The areas comprise pasture fields with some boundary features including linear tree lines and woodland.

1.3 Report Aims

1.3.1 The report presents the results of the advance bat surveys along with an evaluation and recommendations. Methods used for the survey are also provided.

2 Methods

2.1 Approach

2.1.1 Due to the difficult nature of determining the identification of some species by bat detectors, the primary approach to meeting the project aims was to trap free-flying bats to determine species, sex and breeding status using harp traps and mist nets (Collins, 2016).

2.2 Survey Schedule 2020

2.2.1 Four trapping surveys were undertaken on:

- 28th August 2020 (2 x trapping sites)
- 24th September 2020 (3 x trapping sites)
- 19th May 2021 (5 x trapping sites) and
- 9th June 2021 (5 x trapping sites).

2.2.2 The trapping locations are shown on Figure 1.

2.3 Trapping Methods

2.3.1 Up to four acoustic lures (Sussex Autobat) were used to improve catch efficiency in woodland (Hill and Greenaway 2005). The lures were programmed to emit synthesised or recorded bat social calls. Trapping surveys started at dusk and continued to approximately 02:00-03:00hrs, depending on capture success, bat activity and weather conditions.

2.4 Licencing Requirements and Personnel

2.4.1 Surveys were undertaken by David Hill, Gareth Harris and Eric Palmer. All surveyors are currently licensed to catch bats under a Natural England Class 3 and 4 licence (mist nets and harp traps) in England.

2.5 Limitations to Methods

The survey on 28th August 2020 was constrained due to intermittent showers which were residual conditions from a very poor weather week. The survey of 24th September 2021 was curtailed due to night-time temperatures falling below 8°C after midnight; however this was an expected set of conditions at the end of the September.

No limitations were encountered during the surveys in 2021 and taken collectively the set of four survey visits is considered sufficient to inform the conclusions of the report.

2.6 Nature Conservation Importance

2.6.1 The nature conservation importance of the bat assemblage identified has been evaluated based on the approach described in ‘Guidelines for Ecological Impact Assessment in the United Kingdom’ published by the Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) whereby the value of an ecological feature or resource is determined within a defined geographical context using the following criteria:

- International

- National (England)
- County (Hampshire)
- District (or Unitary Authority, City or Borough) (Winchester)
- Local (or Parish) (Winnall) and
- At the site level only.

3 Results

3.1.1 Trapping locations are shown on Figure 1.

3.1.2 No bats were captured during the surveys in August and September 2020. Some low levels of bat activity were incidentally recorded during the survey on the 28th August (noting the survey was focused on trapping of bats); most pipistrelle species. No bats were detected at all on the 24th September.

3.1.3 In 2021 one female pregnant Natterer's bat was captured (see Figure 1) on 19th May. On the 9th June one male common pipistrelle was captured at the same trap location as 19th May, (see Figure 1).

3.1.4 In 2021 Bat activity was reported by the surveyors to be infrequent, often less than one echolocation pass per hour when monitored using handheld bat detectors.

4 Discussion and Evaluation

4.1.1 Bats were captured on two of the four surveys. The trapping surveys confirmed the presence of Natterer's bat and common pipistrelle bat. The Natterer's bat was a pregnant female, and a male common pipistrelle was also confirmed to be present in June 2021.

4.1.2 A low level of bat activity was detected during the August 2020 survey and 2021 surveys using hand-held detectors.

4.1.3 Overall, the trapping effort undertaken at this site was considered to be high and exceeded guidelines. However, the results suggest that this site is not used by high numbers of bats consistently through the bat active season. Although the WSP report (2017) observed high levels of Myotis bats in this part of the scheme, one of the limitations of static loggers is that they are unable to easily determine whether it is a high number of individual bats being recorded or low number of bats or an individual making repeated passes over the static logger location.

4.1.4 These results suggest that the site is not used by high number of bats and bat activity at this site may be sporadically encountered.

4.1.5 Artificial light levels appeared to be particularly high in the survey area and this may have deterred Myotis bats (a light averse species group) from the area generally or may have made the traps more conspicuous enabling bats to avoid them.

4.1.6 Based on these results, the site is considered to be of site importance for Natterer's bat and common pipistrelle.

5 References

Collins (ed) (2016) Bat Surveys: Good Practice Guidelines, 3rd Edition, Bat Conservation Trust.

CIEEM (2018). Guidance on Ecological Impact Assessment.

HMSO The Conservation of Habitats and Species Regulations 2017 (as amended)

HMSO The Countryside and Rights of Way Act 2000.

HMSO Wildlife and Countryside Act 1981 (as amended)

WSP (2017). M3 Junction 9 Improvement Scheme Bat Activity Survey Report. Report prepared for Highways England.

6 Figures

KEY

- Application Boundary
- May and June Trap Location 2021
- August Trap Location 2020
- September Trap Location 2020

Figure Status	FOR INFORMATION
Project Title	M3 JUNCTION 9 IMPROVEMENT
	VolkerFitzpatrick
Figure Title	Bat Trapping Locations 2020 & 2021
Client	highways england

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Original Size: A3	Date: 04/08/2021	Date: 04/08/2021	Date: 04/08/2021	Date: 04/08/2021

FIGURE 1

Project Ref No. 48176

Revision: A

Document Path: \\pba.int\cbh\GIS\GIS_central\Projects\48176\02_mxd\Ecology\48176_BatTrappingLocations_2021.mxd

Appendix A Relevant Legislation

A.1.1 In England, Scotland and Wales all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended) through inclusion in Schedule 5. In England and Wales, this Act has been further amended by the Countryside and Rights of Way Act 2000 (CRoW).

A.1.2 All bats are also included in Schedule 2 of The Conservation of Habitats and Species Regulations 2017, (the Habitats Regulations), which defines 'European protected species (EPS) of animals'. These various pieces of legislation almost parallel each other, with a few small differences in wording. The legal significance of these differences has not yet been fully established and so the following account attempts to combine them to provide a simplified summary of the relevant provisions. Taken together, the Act and Regulations make it illegal to:

- intentionally or deliberately kill, injure or capture (or take) an EPS
- deliberately disturb an EPS
- recklessly disturb an EPS or obstruct access to breeding site or place of shelter (England & Wales only); and
- damage or destroy any structure or place which any EPS uses for shelter or protection.

A.1.3 European Union Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats and Species Directive) places a legal requirement on all Member States of the European Union to protect specified habitats and species through their own domestic legislation. In the UK this has been implemented by the Conservation of Habitats and Species Regulations (2017). All species of bats are on Annex IV ('European protected species (EPS) of animal'), which requires that they are given full protection.

A.1.4 The Natural Environment and Rural Communities (NERC) Act came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. Fifty-six habitats of principal importance and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Bat species included on S41 include barbastelle, brown long-eared bat and soprano pipistrelle Pipistrellus pygmaeus bat.