

Bats – Tree Inspection & Nocturnal Survey Report

Witney Town Council

St Mary's Church



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REVISION HISTORY

Rev	Description of change	Date	Initials
1	Final Report	17/06/2020	SA

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DISCLAIMER

It should be noted that the information above provides details of the Site’s current ecological situation. In the event that the proposed development does not commence within 12 months of the date of this report, further advice should be sought from a suitably qualified ecologist as to whether the information provided requires updating in light of changing ecological conditions.

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1. INTRODUCTION

Terms of Instruction

- 1.1 This report has been commissioned by Witney Town Council. It provides further detail on the likely usage of a single tree with regard to roosting bats. The tree is a cedar of Lebanon *Cedrus libani* situated within the grounds of St Mary's Church, Witney.
- 1.2 A Tree Risk Assessment was undertaken by Lockhart Garratt on 1st November 2018 (ref 18-1940). The assessment determined that the tree presents a high level risk of further failures from the canopy and concluded that remedial works are required to remove the tree's live growth, leaving the tree as a monolith.

Report Limitations

- 1.3 This is an ecological report and as such no reliance should be given to comments relating to buildings, engineering or other unrelated matters.

Site Description

- 1.4 The site is located at to the south of Witney Town Centre centred SP 35656 09224 (hereafter referred to as "the Site"). The assessment covered a mature cedar of Lebanon tree within the south-east of St Mary's Church grounds (hereafter referred to as "T1").
- 1.5 At the time of the assessment the Site comprised amenity grassland, buildings, scattered trees and hard standing.
- 1.6 The Site is adjacent to amenity playing fields lined by street trees to the south and bound by The Henry Box School to the west. Surroundings environs to the north and east were dominated by amenity grassland, street trees and built environment associated with residential and commercial buildings.
- 1.7 The Site location plan is provided below at **Figure 1**.
- 1.8 The approximate location of T1 is provided at **Figure 2**.
- 1.9 A photograph of T1 is provided at **Figure 3**.

Aim of the Study

- 1.10 The purpose of this report is to provide an assessment of the suitability of the Site for bats and also to provide an assessment of whether or not T1 is being used by roosting bats. This study was preceded by a previous report which comprised of a tree risk assessment with an accompanying photographic record document (ref 18-1940).

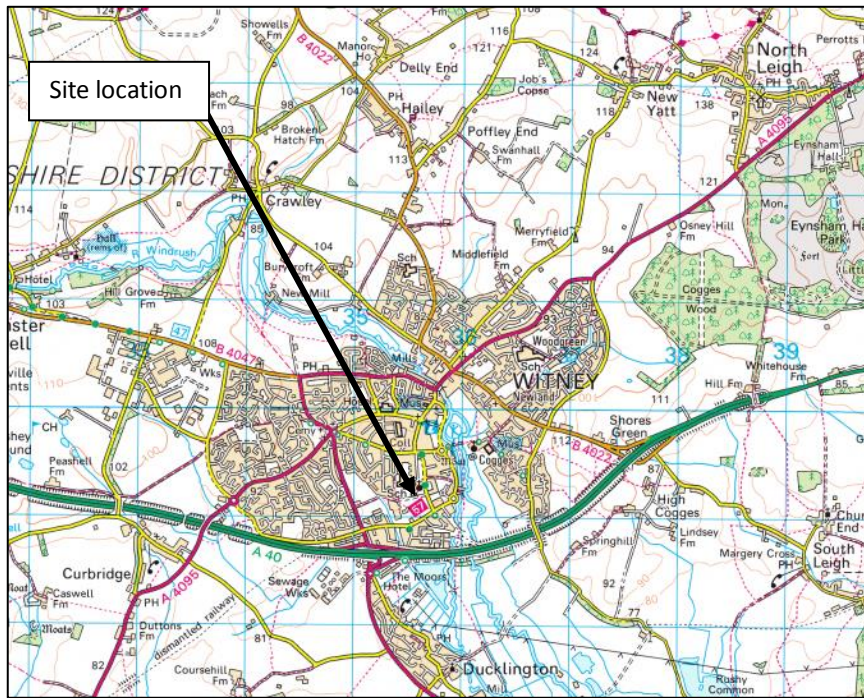


Figure 1: Site Location Plan

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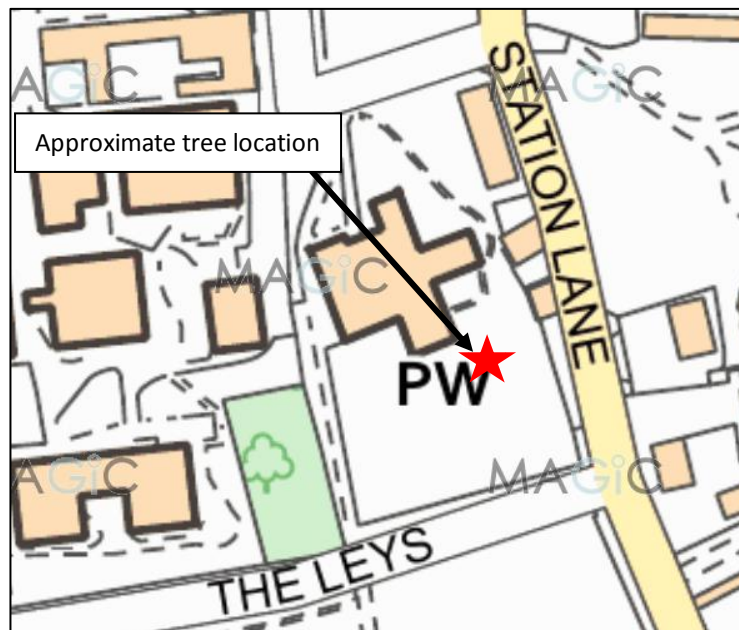


Figure 2: Tree Location Plan



Figure 3: T1 North Elevation

2. METHODOLOGY

Daytime Tree Inspection

- 2.1 An assessment of T1 was undertaken to determine its potential to support roosting bats.
- 2.2 The survey was undertaken by a suitably qualified ecologist and included a detailed check of all suitable features for bats. Features searched for and checked included woodpecker holes, flaking bark, fissures and wounds.
- 2.3 A high powered pair of binoculars (8x30mm), as well as a range of larger and smaller hand torches (e.g. 1 million candle power to 200 lumens) were used where appropriate.
- 2.4 As part of the survey, actual bats, and signs of their usage including droppings, feeding remains and urine staining were also searched for as part of the assessment.
- 2.5 Based on the findings of the assessment each building was rated as being of negligible, low, moderate or high bat potential to support roosting bats based on the type and number of suitable bat features present, in accordance with best practice guidance, Bat Conservation Trust (2016) Bat Surveys: Good Practice Guidelines 3rd Edition.
 1. *High Potential – a structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat;*
 2. *Moderate Potential – a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – this assessment is irrespective of species conservation status, which is established after presence is confirmed).*
 3. *Low Potential - a structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and / or suitable surrounding habitat to be used on a regular basis by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).*
 4. *Negligible Potential – negligible habitat features on site likely to be used by roosting bats.*

Nocturnal Surveys

- 2.6 The emergence and dawn re-entry survey methods used were based on survey guidelines published by the Bat Conservation Trust (2016).
- 2.7 One emergence survey and one dawn re-entry survey was undertaken covering all potential roosting features present on T1.
- 2.8 The surveyor was equipped with an ultrasound detector to listen for bat calls. A combination of frequency division, or time-expansion bat detectors were used as part of the assessments. Recordings from these detectors were recorded to enable subsequent analysis.
- 2.9 The dusk emergence survey commenced 15 minutes before sunset and concluded at least 90 minutes afterwards. The dawn re-entry surveys commenced 120 minutes before sunrise and concluded 15 minutes after sunrise.

- 2.10 Analysis from the detectors was later AnabookW (Anabat output). Sonograms from records were compared against the reference classifiers and example sonograms for different bat species presented in the book - British Bat Calls (Russ, 2013).
- 2.11 As part of the two assessments an infra-camera was used. A Sony HDR-SR10 with infrared illuminator was used to monitor the west elevation of T1.

3. LEGISLATION

Legislation

- 3.1 In the United Kingdom all bat species, their breeding sites and resting places are fully protected by law under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and as a “European protected species” under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended).
- 3.2 As a result it is against the law to:
- Deliberately capture, injure or kill bats.
 - Damage or destroy a breeding or resting place (bat ‘roost’).
 - Obstruct access to their resting or sheltering places (bat ‘roost’).
 - Possess, sell, control or transport live or dead bats, or parts of them.
 - Intentionally or recklessly disturb a bat while it’s in a structure place of shelter or protection.
- 3.3 For the purposes of the legislation a ‘roost’ is any structure or place which any wild bat uses for shelter or protection. Roosts are protected irrespective of whether bats are present or not at a specific time, due to the seasonal nature of many roosting sites.

4. SURVEY RESULTS

Daytime Inspection

- 4.1 The Inspection was undertaken on 20th May 2020 in good weather conditions (20°C, 10% cloud cover, Beaufort scale 0).
- 4.2 T1 is a veteran cedar of Lebanon approximately 18m high with a stem diameter of 210cm at 1.5m above ground level.
- 4.3 Four failed limbs were present at the north and east aspects of the tree at a height of approximately 13m and 15m from ground level.
- 4.4 At the north aspect of T1 two of the three co-dominant stems featured woodpecker holes at approximately 8m and 9m above ground level respectively.
- 4.5 A large wound was present at the west aspect of T1 at approximately 5m above ground level.
- 4.6 A split was observed on one of the three co-dominant stems at the west aspect of T1 at approximately 6m above ground level.
- 4.7 Based on the surrounding habitats and the aforementioned features present T1 was considered to be of Moderate Suitability to roosting bats. No features were present that could support any higher conservation status roosts such as maternity or hibernation roosts.



Figure4-6 (top-bottom, left-right): failed limbs, woodpecker hole, wounds & split

Nocturnal Surveys

- 4.8 **Table 1** provides a summary of the survey effort for the nocturnal surveys within the Site.
- 4.9 The nocturnal bat surveys were conducted on 20th May 2020 and 16th June 2020 in good weather conditions (see **Table 1** for more detail).

Field Survey Limitations

- 4.10 There were no limitations associated with these surveys and therefore a robust assessment was carried out.

Table 1: Summary of Survey Effort

Tree	Date	Type of Survey	Number of Surveyors	Equipment Used	Number of Infra-Red Cameras	Timings	Atmospheric Conditions
T1 (Moderate Potential)	20 th May 2020	Dusk emergence survey	1	Echometer Touch Pro, Sony HDR-SR10 with infrared light	1	20:46 (start) 22:31 (finish) Sunset (21:01)	BFT 0, 20-18°C, 1/8th cloud cover
	16 th June 2020	Dawn re-entry survey	1	Echometer Touch Pro	0	03.16 (start) 05.01 (finish) Sunrise (04.46)	BFT 0, 12-13°C, 7/8th cloud cover

Dusk Emergence Survey 20.05.2020

- 4.11 The raw data for this survey is set out at **Appendix 1**.
- 4.12 No confirmed emergences were recorded from T1 during the survey.
- 4.13 Levels of bat activity were low across the Site with the occasional bat commuting. A total of 16 calls were registered during the survey.
- 4.14 No bats were recorded by the camera monitoring west elevation of T1.
- 4.15 Three species were encountered during the survey. These included common pipistrelle *Pipistrellus pipistrellus*, serotine *Eptesicus serotinus* and Leisler's *Nyctalus leisleri*.
- 4.16 There was foraging and commuting activity observed during the survey, with the first bat recorded at 21.41 and the last bat recorded at 22.42.
- 4.17 The first bat recorded was a common pipistrelle (unobserved) at 21:30, approximately 29 minutes after sunset.
- 4.18 The remainder of the survey was dominated by common pipistrelle activity with several individuals observed commuting north and south through the Site.
- 4.19 The last bat recorded was a Leisler's (unobserved) north of T1 at 22:19.

Dawn Re-Entry Survey 16.06.2020

- 4.20 The raw data for this survey is set out at **Appendix 1**.
- 4.21 No confirmed re-entries were recorded at T1 during the survey.
- 4.22 Levels of bat activity were low across the site with a single commuting bat and two individuals foraging. A total of eight calls were registered during the survey.
- 4.23 Two species were encountered during the survey. These included common pipistrelle and noctule *Nyctalus noctula*.
- 4.24 The first bat recorded was a common pipistrelle (unobserved) at 03:28, approximately an hour and 18 minutes before sunrise.
- 4.25 Seven of the eight calls recorded were of common pipistrelle with one call recorded from an unobserved noctule.
- 4.26 The last bat was recorded was a common pipistrelle foraging to the south of T1 flying west at 04:09.

5. CONCLUSION

Overview

- 5.1 The daytime inspection undertaken in May 2020 concluded that a cedar of Lebanon within the grounds of St Mary's Church, Witney was of value to roosting bats and was assessed as being of Moderate Suitability. As such, further survey effort in the form of nocturnal surveys was recommended.
- 5.2 Overall the Site was subject to low levels of bat activity.
- 5.3 Four bat species in total were recorded across the two surveys, namely common pipistrelle, serotine, Leisler's and noctule.
- 5.4 No confirmed emergences or re-entries were recorded at T1.
- 5.5 It is concluded that the proposed removal of T1 will not result in the disturbance of bats which are likely absent from T1.

6. RECOMMENDATIONS

Mitigation – Negligible Impacts

- 6.1 The proposed works to T1 are considered to pose a negligible risk to roosting bats.
- 6.2 As bats are considered likely to be absent, and no roosts are to be effected, the proposed works are considered able to proceed without the requirement for a European Protected Species Mitigation Licence (EPSM), further assessment or ecological supervision (e.g. direct supervision by Suitably Qualified Ecologist (SQE)).
- 6.3 The Method Statement presented in **Appendix 2** is to be followed if bats are discovered and a suitably qualified Ecologist is not present.
- 6.4 As bats are a highly mobile species, the proposed works should be completed with care.

Construction and External Lighting

- 6.5 Bats regularly forage and commute past and around the tree assessed as part of this study. All work lighting is to be focused on the proposed works areas only with baffles and cowling used to minimise light throw around the fringes of these areas.
- 6.6 No work lighting is to be directed on T1. Work lighting (including that associated with any site compound, or welfare facilities) is to be switched-off at the end of the working day.

Enhancement

- 6.7 To provide additional roosting opportunities for birds and bats the following wildlife boxes should be installed during the works phase on retained trees within the Site as per the manufacturer's instructions:
 - One Schwegler 1B bird box (32mm hole).
 - One Schwegler 1B bird box (26mm hole).
 - One Schwegler 2F bat box.
 - One Schwegler 1FF bat box.

General

- 6.8 If in the event any bats (or other protected species e.g. nesting birds) are encountered, works are to stop immediately with advice sought from ourselves (Lockhart Garratt – 01608 648657).

7. REFERENCE AND BIBLIOGRAPHY

Bat Conservation Trust (2016) Bat Surveys: Good Practice Guidelines 3rd Edition

Russ, J. (2012) British Bat Calls: A guide to species identification 1st Edition Pelagic

8. APPENDICES

Appendix 1: Raw Data from Nocturnal Survey

Ref: 20-3125

Dusk 20.05.2020

Time	Species	Observations
<i>Surveyor 1 – North of T1</i>		
21:30	Common pipistrelle	Heard not seen
21:33	Common pipistrelle	Heard not seen
21:36	Common pipistrelle	Commuting south around church building
21:38	Common pipistrelle	Commuting north over church building
21:39	Common pipistrelle	Commuting north over church building
21:40	Common pipistrelle	Heard not seen
21:41	Common pipistrelle	Heard not seen
21:43	Serotine	Heard not seen
21:44	Common pipistrelle	Commuting east over churchyard
21:46	Leisler's	Heard not seen
21:48	Common pipistrelle	Commuting east over churchyard
21:50	Common pipistrelle	Commuting southwest over churchyard
22:06	Common pipistrelle	Heard not seen
22:08	Leisler's	Heard not seen
22:11	Leisler's	Heard not seen
22:19	Leisler's	Heard not seen
<i>Camera – West of T1</i>		
No bats recorded		

Dawn 16.06.2020

Time	Species	Observations
<i>Surveyor 1 – West of T1</i>		
03:28	Common pipistrelle	Heard not seen
03:37	Common pipistrelle	Heard not seen
03:40	Common pipistrelle	Commuting west to the south of church building
03:58	Common pipistrelle	Heard not seen
04:02	Noctule	Heard not seen
04:04	Common pipistrelle	Heard not seen
04:05	Common pipistrelle	Foraging to the south of church building flying west
04:09	Common pipistrelle	Foraging to the south of T1 flying west

Appendix 2: Bat Method Statement

Procedure to Be Followed Should Bats Be Found and an Ecologist Is Not Present

If at any point in the works, bats are discovered, contractors should stop works immediately and telephone Lockhart Garratt on 01608 648657.

Lockhart Garratt will either provide an appropriately licensed bat worker or member of staff to the site.

Should it transpire that the operation being carried out is of risk to bats, works will be stopped until a licence can be sort from Natural England.

Bats are a protected species and there should be no attempt to handle a bat if discovered.

The bat should be covered with a light material (e.g. cloth) and a licensed bat worker or bat care worker called out to carry out the rescue.

If a bat is found under a tile or any other aperture, works will stop immediately (as above).

If the bat does not voluntarily fly out, then the aperture will be carefully covered over to protect the bat from the elements, leaving a small gap for the bat to escape from voluntarily.

Any covering should be free from grease or other contaminants and should not be of a fibreglass-based material.

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