

Deans Farm, Overton Supplementary Bat Survey

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Dunelm Ecology
consultant ecologists

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1 Introduction

1.1 Background

- 1.1.1 In March 2017, Dunelm Ecology Ltd undertook a daytime bat inspection survey of a barn at Deans Farm, Overton. The survey was undertaken in support of a planning application to convert the barn into residential accommodation. The survey recorded low numbers of old pipistrelle spp. bat droppings in two locations within the barn, mainly on internal gable walls. Given the age of the droppings there was some uncertainty as to whether bats continue to use the barn as a roost site especially considering the owners report having not seen bats within the barn for at least five years whereas previously the odd bat was regularly seen. The ensuing bat survey report recommended that nocturnal surveys were undertaken to better understand how or if bats use the barn. It was mutually agreed with Wrexham Borough Council's Ecology Officer that two nocturnal surveys would provide a sufficient level of survey effort to ascertain roost status (Emma Broad, Wrexham Council, pers.comm 13 March 2017).
- 1.1.2 This report presents the results of nocturnal bat surveys undertaken in May and June 2017. For context, the current report should be read in conjunction with the initial bat survey report (Dunelm Ecology Ltd 2017).

2 Methods and Approach

2.1 Field Survey

- 2.1.1 The bat surveys were undertaken following methodologies prescribed in English Nature's *Bat Mitigation Guidelines* (Mitchell-Jones 2004) and the Bat Conservation Trust's: *Bat Surveys Good Practice Guidelines* (Collins 2016); further details of which are provided below. The surveys were led by Jon Guarnaccio MCIEEM who has 14 years experience as a professional ecologist and has held a Natural Resources Wales (previously CCW) bat survey licence since 2005 (75243:OTH:CSAB:2017). Jon was assisted by David Watts and Richard Roe on the first and second surveys respectively, both of whom are licensed bat ecologists.

Nocturnal Survey

- 2.1.2 Dusk emergence and dawn re-entry surveys were carried out on 25 May and 14 June 2017 respectively while the barn was re-inspected for evidence of bats. The dusk survey aimed to record bats exiting the building and started 15 minutes before sunset and ended 90 minutes after sunset. The dawn survey aimed to identify bats entering the barn and commenced 90 minutes before sunrise, ending at sunrise. Surveyors were positioned in strategic locations to ensure that potential access points could be viewed clearly. The surveys were undertaken using time expansion (Pettersson D240X) detectors coupled with Anabat Express unites to record bat calls for subsequent sound analysis. The time of exit/entry and the number of bats and species (if identifiable) were recorded; whilst any bat activity in the general area was also noted.

2.2 Survey Constraints

- 2.2.1 The surveys were undertaken at an optimal time of year under favourable weather conditions. As such, no significant constraints are associated with the survey.

Table 1 Summary of Bat Survey Times and Weather Conditions

Survey	Date	Timings	Weather
Dusk emergence	25/05/2017	20:57 – 22:38 (sunset 21:12)	18-17°C, dry, calm, 5% cloud cover.
Dawn re-entry	14/06/2017	03:15 – 04:45 (sunset 04:45)	12°C, dry, calm, 0% cloud cover.

3 Results

3.1 Re-inspection Survey

- 3.1.1 No fresh or recent evidence of bats was recorded during the re-inspection of the barn, the survey findings concurring with those of the March 2017 survey (Dunelm Ecology Ltd 2017). It is also worth noting that no recent evidence of nesting birds was recorded within the barn.

3.2 Dusk Emergence Survey

- 3.2.1 Several species of bat were recorded foraging and commuting around the barn during the dusk survey including noctule, common pipistrelle, soprano pipistrelle, brown long-eared and *Myotis* spp. A common pipistrelle bat was observed exiting an air hole on the northern elevation of the barn at 21:49. However, given there are no obvious roosting features within this section of the barn, it is assumed that the bat had entered via an open doorway on the courtyard side of the barn where bats were regularly observed foraging during the course of the survey.

3.3 Dawn Re-entry Survey

- 3.3.1 No bats were recorded entering the building during the dawn survey. However as with the dusk survey, five species of bat were recorded foraging and commuting in the locality. Most of the activity as attributable to one common pipistrelle bat although the *Myotis* spp. bat was encountered several times between 03:33 and 04:00. The last bat recorded was at 04:13, this being a common pipistrelle bat foraging within a garden to the north of the barn.

4 Discussion and Recommendations

4.1 Assessment

- 4.1.1 Taking into consideration the results of the summer surveys, it is concluded that the barn is no longer used by roosting bats and is a defunct roost. The reasons for this are unclear but it could be attributable to restoration works which took place a number of years ago, including re-roofing the barn. Indeed, the owners reported never having seen bats within the barn since these works were completed. As such, no adverse impacts on bats are predicted while a European Protected Species licence is not required although precautionary measures should be implemented.

4.2 Recommendations

- 4.2.1 It is advised that conversion works affecting the roof (including the missing section of mortar at the southern gable) and internal wall crevices are undertaken in a sensitive manner. Wall crevices should be carefully inspected with a torch and endoscope prior to being interfered with while felt and tiles should be removed carefully by hand. In the unlikely event of a bat being encountered, all work must stop and a licensed bat ecologist contacted for advice. Builders and contractors must not handle bats. Prior to works commencing, a licensed bat ecologist will give a toolbox talk to contractors to inform them of their obligations in respect of bats. This will include notifying contractors of bat legislation, working methods (i.e. endoscope inspection of crevices and removing roof tiles and felt carefully by hand), bat field signs to look out for and what to do if they uncover a bat.
- 4.2.2 The client has agreed to incorporate biodiversity enhancements within the scheme design. This would involve installing two bespoke ridge tile access points if the barn is re-roofed while two Schwegler 1FF bat boxes should be installed within the adjacent agricultural barn at a height of at least 3 m with care taken to ensure the entrances are not obstructed.

5 References

Dunelm Ecology Ltd (2017). *Bat Survey Report*. Unpublished report.