

Ecological Appraisal

Report for:

***Hampshire County Council –
Highways***

Trosnant Junior School, Havant, PO9 3BD

2FE to 3FE expansion

10th October 2016

Revisions:	V1
Written by:	A Showan
Approved by:	Megan Owen
Ecology ref:	16.0096

Contents

SUMMARY	4
1 INTRODUCTION.....	5
1.1 Project Description	5
1.1.1 <i>Proposal</i>	5
1.1.2 <i>Requirement for Ecological Survey/Assessment.....</i>	5
1.1.3 <i>Limitations to Report.....</i>	5
1.2 Site Description.....	5
2 METHODS	7
2.1 Desk-based Assessment	7
2.2 Field-based Assessment	7
2.2.1 <i>Vegetation</i>	7
2.2.2 <i>Badger.....</i>	7
2.2.3 <i>Bats – Built Structures</i>	7
2.2.4 <i>Bats – Trees</i>	8
2.2.5 <i>Bats – Foraging and Commuting Habitat</i>	8
2.2.6 <i>Hazel dormouse.....</i>	9
2.2.7 <i>Birds</i>	9
2.2.8 <i>Reptiles</i>	9
2.2.9 <i>Amphibians.....</i>	9
2.2.10 <i>Invertebrates</i>	10
2.2.11 <i>Protected Species Assessment</i>	10
3 FIELD BASED ASSESSMENT	11
3.1 Desk-based Assessment	11
3.1.1 <i>Designated Sites.....</i>	11
3.1.2 <i>Protected Species.....</i>	11
3.2 Field Survey.....	11
3.2.1 <i>Vegetation</i>	11
3.2.2 <i>Badger.....</i>	12
3.2.3 <i>Bats - Built Structures</i>	12
3.2.4 <i>Bats – Trees</i>	13
3.2.5 <i>Bats – Foraging and Commuting</i>	13
3.2.6 <i>Hazel Dormouse.....</i>	13
3.2.7 <i>Birds</i>	14
3.2.8 <i>Reptiles</i>	14
3.2.9 <i>Amphibians.....</i>	14
3.3.10 <i>Invertebrates</i>	14
4 PHASE 2 BAT SURVEYS.....	15
4.1 Methods	15
4.2 Results.....	15
5 IMPACTS	16
5.1 Introduction	16
5.2 Impacts	16
5.2.1 <i>Designated Sites.....</i>	16
5.2.2 <i>Habitats/Vegetation</i>	16
5.2.3 <i>Bats – Foraging and Commuting</i>	16
5.2.4 <i>Birds</i>	16

6	RECOMMENDATIONS	17
6.1	Introduction	17
6.2	Mitigation	17
6.2.1	<i>Bats</i>	<i>17</i>
7	REFERENCES	18

SUMMARY

This report constitutes an assessment of the potential impacts arising from the proposal and site set out below and provides recommendations to ensure that this proposal can reasonably avoid or mitigate such effects identified. If the proposal differs from that set out below, then this assessment and recommendations may not be applicable. Furthermore, the assessment and recommendations are based on surveys which may only be considered valid for up to two years following the date of this report.

- An Extended Phase 1 Ecological Survey was undertaken on 26 May 2016 at Trosnant Junior School, Havant, PO9 3BD. The proposals for the site comprise the expansion of the school from 2FE to 3FE, involving the construction of 5 new classrooms, as well as internal refurbishment within specified areas of the school.
- The Extended Phase 1 Ecological Survey comprised a desk-based study and field survey to assess the potential for the site to support protected habitats and species.
- An initial site visit identified a numbers of features on the building of suitability for supporting crevice-roosting bats, comprising gaps under loose and broken roof tiles and raised lead flashing. Overall the building was assessed to have low potential to support roosting bats.
- Habitats to be directly impacted by the proposed works are buildings, hardstanding and amenity grassland. The site is considered to be of low ecological value overall.
- A single phase 2 bat emergence survey was undertaken on the evening of 30 August 2016 and no bats were seen to emerge from the building. Conditions for the survey were optimal and an extremely low level of foraging bat activity was recorded. It is therefore considered that bats are highly likely to be absent from the structure.
- In the unlikely event that a bat or evidence of bats is found during works, all works must cease immediately and professional ecological advice should be sought. In this event it is likely that a licence would be required from Natural England in order to avoid unlawful actions. The process of obtaining a licence can take up to ten weeks, and is subject to requirements of adequate assessment.

1 INTRODUCTION

1.1 Project Description

Hampshire County Council Ecology Team (HCCET) has been commissioned to carry out an Extended Phase 1 Ecological Survey at Trosnant Junior School, Havant, PO9 3BD.

1.1.1 Proposal

Hampshire County Council proposes to construct five new general teaching classrooms, as well as a number of non-teaching rooms. Internal refurbishment is also proposed for certain sections of the school building, as indicated in **Figure 1** below.

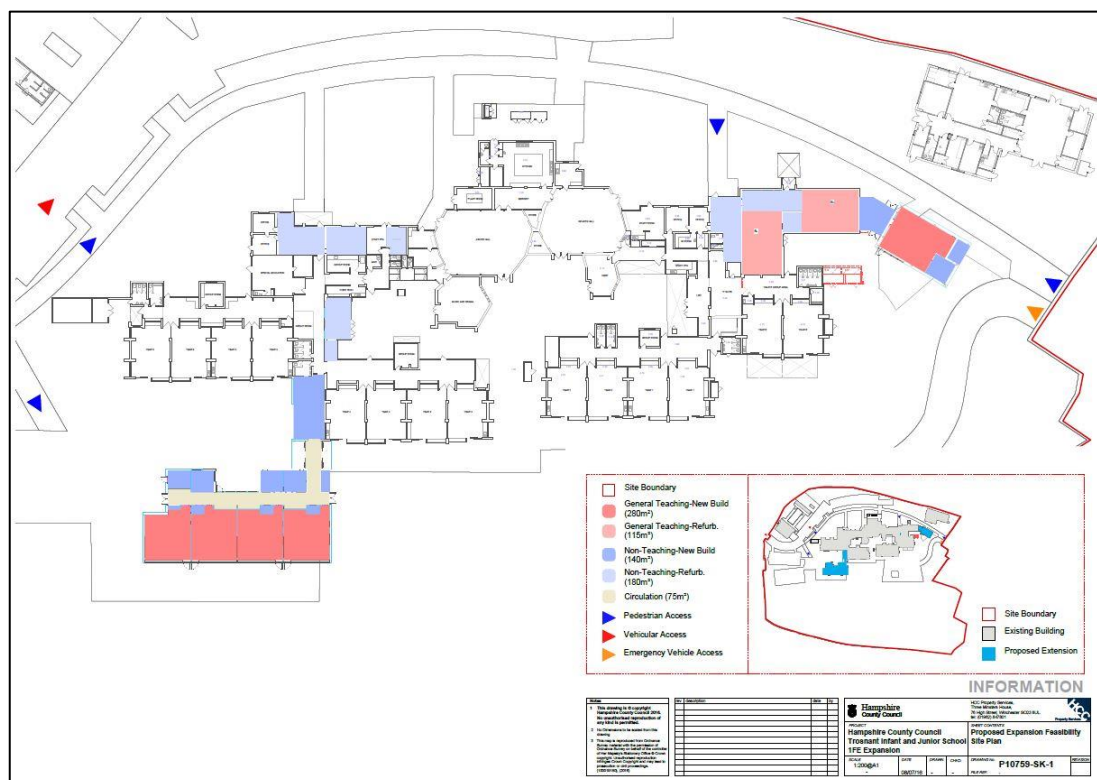


Figure 1: Construction of five classrooms (dark red shading) and numerous non-teaching rooms (dark blue shading). Internal refurbishment of existing rooms (light blue and red shading) also proposed.

1.1.2 Requirement for Ecological Survey/Assessment

Consultation with HCCET has identified the potential for the site to support legally-protected species.

1.1.3 Limitations to Report

There were no access or weather constraints during the survey.

1.2 Site Description

The site is located in the centre of Havant, approximately 1.2km north of the A27 and approximately 1.2 west of the railway line. Hermitage Stream, a small water course

runs approximately 0.8km west of the site. The surveyed area is centred on grid reference 471449 107232. Surrounding land uses include residential housing with associated gardens, industrial and commercial buildings, and improved grassland. An aerial photograph of the area of interest is shown on **Figure 2** below.



Figure 2: Site location (red outline) and surrounding area

2 METHODS

2.1 Desk-based Assessment

A desk-based assessment was carried out by HCCET on 13 June 2016. Geographical Information Systems (GIS) mapping was used in order to identify all records of protected species and habitats within a 500 metre (m) radius of the site. Given the localised nature of the proposals this search radius was considered sufficient for assessing risk to all ecological features. In addition, records were obtained of all statutory and non-statutory designated nature conservation sites within the search radius.

HCCET had full access to the extensive biological database held by the Hampshire Biodiversity Information Centre (HBIC). The data is aggregated to meet the HBIC Data Users Agreement and attention is drawn to paragraph 5 of the agreement which states: *'Whilst every reasonable effort is made to validate information supplied to and by the Hampshire Biodiversity Information Centre, owing to the dynamic and judgmental nature of information relating to wildlife, HBIC disclaims any responsibility for the accuracy or comprehensiveness of the information supplied, and accepts no liability for any indirect, consequential, or incidental damages or losses arising from use of the information'*.

2.2 Field-based Assessment

An Extended Phase 1 Ecological Survey was carried out on 26 May 2016. The survey entailed a single surveyor undertaking a methodical investigation of all areas of the site in order to identify the presence of, or habitat considered suitable for supporting, legally-protected species. A brief description of the survey methods used is provided below.

2.2.1 Vegetation

All broad habitat types were identified and a list was compiled of characteristic plant species within each habitat type. Where necessary, habitat types of particular botanical interest were subject to more detailed survey using methods developed for the National Vegetation Classification (NVC) (Rodwell, 1992).

2.2.2 Badger

All areas of the site were inspected for field signs of badger activity. This includes badger setts, latrine sites, dung piles, well-used trails, prints and hairs.

2.2.3 Bats – Built Structures

All external areas of the building within the survey were inspected visually to identify potential bat access, egress and roosting features. Such features include: missing, slipped, broken or bowed roof materials; gaps within soffits; gaps behind fascias; gaps/holes within brickwork; louvers; lifted lead flashing and gaps around window and door casements. Features were inspected using binoculars and the surveyor was equipped with a high-powered torch. As the building does not contain roof voids, an internal inspection was not undertaken. Survey methods used were those described within Collins (2016).

The structure has been assessed for its potential to support roosting bats based upon the presence of direct evidence or the presence of features suitable access, egress or roosting features. Each structure has been graded using the criteria detailed in **Table 1**.

Table 1 Bat Roost Building Grading Criteria

Grading Criteria	Reason
Confirmed Bat Roost	Presence of unambiguous evidence: live bats, corpses, droppings, feeding remains, urine- and fur-staining. Bats heard within roost. Known roost based on desk-based assessment.
High Potential	Structure exhibits numerous or high-quality features for roosting bats. Examples may include older/historic buildings with traditional roof materials, roof voids etc. Potential often higher when structure is in a non-urban setting.
Moderate Potential	Structure exhibits moderate number or moderate-quality features for roosting bats. Examples may include structures of more-modern construction exhibiting gaps within roof materials.
Low Potential	Structure exhibits low number or low-quality features for roosting bats. Examples may include otherwise-suitable structures exhibiting a very small number of potential features.
Negligible Potential	Structure exhibits no features for roosting bats. Examples may include modern structures in sound condition exhibiting no suitable features. Such structures are often within an urban setting.

2.2.4 Bats – Trees

All trees within the site likely to be impacted were subject to detailed visual inspection from ground level in order to identify features which may offer suitable roosting opportunities for bats. These features include: dense ivy cladding; woodpecker holes; rot holes; limb stubs; cavities; flaking bark; cracks and splits. The methods used were those described within Collins (2016). Each tree has been graded for its potential to support bats based on criteria within outlined **Table 1** above.

2.2.5 Bats – Foraging and Commuting Habitat

An assessment was made of the suitability of the site and the surrounding landscape to support foraging/commuting/flying bats. These activities cover the varied range of behaviours exhibited by bats when they are not roosting and will include feeding, travelling between sites and other social behaviours. The assessment was based on the presence of key habitat features such as woodland, scrub, hedgerows, grassland and open water which are highly attractive to bat species for those activities. Of importance is the presence of unlit semi-natural vegetation and habitat linkage between the site and the surrounding landscape.

The quality of bat foraging/commuting/flying habitat has been assessed using the criteria detailed in **Table 2**.

Table 2: Bat Foraging/Commuting/Flying Habitat Grading Criteria

Grading Criteria	Reason
Optimal Quality	Presence of optimal habitat features such as unlit woodland, scrub, hedgerows, grassland and open water with excellent linkage to similar habitats within the wider landscape. Presence of high potential buildings/trees and/or known roosts within immediate landscape. Sites are generally rural in character.
Moderate Quality	Presence of optimal habitat features such as woodland, scrub, hedgerows, grassland and open water with reasonable linkage to similar habitats within the wider landscape. Limiting factors may include size of site.
Low Quality	Presence of some limited habitat features such as scrub or hedgerows, with minimal linkage to suitable habitats within the wider landscape.
Poor Quality	No suitable habitat present or, if present, highly degraded/fragmented. Minimal unlit areas with no linkage to suitable habitat beyond site. Generally urban in character.

2.2.6 Hazel dormouse

An assessment was made of the suitability of habitat on site to support hazel dormice. Key habitats are woodland, scrub and hedgerows, particularly where these offer dense vegetation within which to nest/hibernate and key resources such as hazel nuts, fruiting/nectar-rich plants (e.g. hawthorn, bramble) and honeysuckle (for nesting material). Of key importance is the presence of landscape-scale habitat linkages such as hedgerows.

2.2.7 Birds

An assessment was made of the site's suitability to support breeding and wintering bird species. Nesting birds will utilise a broad range of habitats, including: built structures; trees; scrub; isolated shrubs; dense herbaceous vegetation (terrestrial and aquatic) and open grassland. All bird species observed on site were recorded.

2.2.8 Reptiles

An assessment was made of the site's suitability to support reptile populations. Key habitat features include: tussocky/patchy grassland; scrub edge; linear watercourses; ponds; compost heaps; brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within urban areas.

2.2.9 Amphibians

An assessment was made of all waterbodies and terrestrial habitat within the site for their suitability to support populations of amphibians. Suitable waterbodies will

generally be characterised by the presence of good quality water, diverse macrophyte cover and an absence of fish.

For the European-protected great crested newt *Triturus cristatus* each waterbody was assessed using the Habitat Suitability Index (HSI) system (Oldham *et al.*, 2000) and assigned a grading score between zero (poor suitability) and 1 (excellent suitability).

2.2.10 Invertebrates

The presence of important invertebrate species or assemblages is generally dependant upon distinct micro-habitats such as dead wood (standing, fallen, of all decay stages), sap runs, damp/wet soils, mixed sun/shade, bare/friable soils (e.g. exposed sand banks) and a diversity of plant species. For aquatic invertebrates, important species/assemblages will generally be associated with high-quality aquatic habitats such as ponds, rivers, streams and ditches. Key factors will include water quality, substrate, waterbody morphology and plant diversity.

An assessment of the site's potential to support a diverse invertebrate assemblage and/or specialist species is based loosely on the presence of habitat features described in Kirby (2001). Where possible, a list of all invertebrate species encountered has been made.

2.2.11 Protected Species Assessment

The surveyed site has been assessed for its potential to support the above-named protected species based upon the criteria in **Table 3**.

Table 3: Protected Species Grading Criteria

Grading Criteria	Justification
Confirmed Presence	Species confirmed on site through direct sighting, presence of field signs (e.g. scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.
High Potential	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
Moderate Potential	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
Low Potential	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
Negligible Potential	Site is entirely unsuitable for species. Presence of species highly unlikely.

3 FIELD BASED ASSESSMENT

3.1 Desk-based Assessment

3.1.1 Designated Sites

No internationally or nationally-designated statutory sites lie within 0.5km of the site. However, a single locally-designated non-statutory Site of Importance for Nature Conservation (SINC) occurs within the search area. Battins Copse SINC lies approximately 0.48km north-east of the proposed development site and is designated for containing ancient semi-natural woodland.

3.1.2 Protected Species

A review of the biological database held by HBIC, as well as records of protected species submitted in association with local planning applications, revealed the presence of a small number of protected and notable species within a 500m radius of the site. Relevant records are shown in **Table 4**.

Table 4: Protected and Notable species located within 500m of the site

Species	Details	Distance and Direction from Site of nearest record
Serotine <i>Eptesicus serotinus</i>	Multiple records from multiple locations	0.01km N
Noctule <i>Nyctalus noctula</i>	Multiple records from multiple locations	0.01km N
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Multiple records from multiple locations	0.01km N
Common pipistrelle <i>Pipistrellus pipistrellus</i>	Multiple records from multiple locations	0.01km N
Whiskered/Brandts Bat <i>Myotis mystacinus/brandtii</i>	Single record of a dead bat in 2001	0.38km N
Mediterranean gull <i>Larus melanocephalus</i>	Single record from 2002	Overlapping with site

3.2 Field Survey

3.2.1 Vegetation

The site comprised of mainly hardstanding (**Figure 3**) and school buildings (**Figure 4**), amenity grassland (**Figure 5**) and scattered planted trees (**Figure 6**) comprising semi-mature sycamore *Acer pseudoplatanus*, silver birch *Betula pendula* and ash *Fraxinus excelsior*.



Figure 3 (left): Hardstanding playground to south of school buildings
Figure 4 (right): School buildings with corrugated concrete pitched roof



Figure 5 (left): Amenity grassland on the southern side of the school site
Figure 6 (right): Planted scattered trees

3.2.2 *Badger*

No evidence of badger activity was recorded within the surveyed areas and the habitats within the surveyed areas are not considered suitable for supporting badgers. Overall, the site is considered to offer **negligible potential** for supporting badger.

3.2.3 *Bats - Built Structures*

The school buildings on site comprised single storey structures with corrugated concrete tiles. Gaps were identified under loose or broken tiles at points throughout the building (**Figure 7**), with further gaps identified under loose lead flashing (**Figure 8**). In addition, wooden cladding on a north-west section of the building was seen to have several loose boards (**Figure 9**) and gaps from missing mortar (**Figure 10**) were seen on the southern aspect of the building facing the central courtyard of the school, which showed potential to allow space for roosting bats. Overall, the site is considered to offer low potential for supporting roosting bats.



Figure 7 (left): Raised tiles found throughout building on pitched roof

Figure 8 (right): Loose/lifted lead flashing



Figure 9 (left): Loose wood cladding on western elevation

Figure 10 (right): Gap in wall from missing mortar

3.2.4 *Bats – Trees*

All trees on site were assessed for their potential to support roosting bats. No features that were considered to have potential to provide roosting opportunities were identified on any of the trees on site, which comprised semi-mature species of sycamore, silver birch and ash. Therefore, the site is considered to have **negligible potential** for supporting roosting bats.

3.2.5 *Bats – Foraging and Commuting*

The surveyed area comprised hardstanding and buildings, as well as scattered trees and amenity grassland. Such features are considered to provide very limited suitability for foraging and bats. The site is located in the centre of Havant, with limited connectivity to the surrounding landscape. The urban environment creates noise and light disturbance, detracting from the sites suitability to support foraging and commuting bats. Overall, the site is considered to offer **negligible potential** for supporting commuting/foraging bats.

3.2.6 *Hazel Dormouse*

The surveyed area did not contain any areas of suitable dormouse habitat, therefore there is considered to be **negligible potential** for the site to support this species.

3.2.7 Birds

The woody vegetation on site provides opportunities for nesting birds and it is inevitable that small numbers of common and widespread bird species will occur and possibly nest within the vegetation, and possibly on the buildings. Overall, the site is considered to exhibit **low potential** for supporting small numbers of common and widespread breeding birds.

3.2.8 Reptiles

The site is characterised by hardstanding, scattered planted trees and amenity grassland. These habitats are considered to provide wholly unsuitable for supporting reptiles, therefore the site is considered to offer **negligible potential** for supporting reptiles.

3.2.9 Amphibians

The habitats on site are considered to be wholly unsuitable for supporting amphibians, therefore the site is considered to offer **negligible potential** for supporting reptiles.

3.3.10 Invertebrates

The habitats present on site are widespread and common. It is therefore probable that the site supports similarly widespread and common terrestrial invertebrate species and is unlikely to include any scarce or notable species. The site is considered to have **negligible potential** for supporting scarce or notable invertebrate species.

4 PHASE 2 BAT SURVEYS

4.1 Methods

Further to the field-based assessment a single bat emergence survey was carried out on the 30 August 2016 using three surveyors (**Figure 11**).



Figure 11: Existing site plan showing location of surveyors (red circles)

The surveyors were positioned in order to enable full coverage of the identified gaps in the cladding. The emergence surveys commenced 15 minutes prior to sunset and continued for 1.5 hours after sunset, as detailed within **Table 5** below.

Table 5: Phase 2 bat survey timing and weather conditions

Survey Date	Survey Type	Duration	Weather Conditions	Sunset/sunrise Time
30 th August 2016	Emergence	20:37-21:22	19°C, dry, 10% cloud, very light wind	19:52

4.2 Results

No bats were seen to emerge from any of the features. Other activity on site included recordings of two soprano pipistrelles *Pipistrellus pygmaeus* and four common pipistrelles *Pipistrellus pipistrellus* on the north-eastern side of the site, as well as one distant serotine *Eptesicus serotinus* and a common noctule *Nyctalus noctula* commuting at distance at approximately 20:30.

On the south-western side of the school, a single common noctule was heard commuting at distance at 20:33 and a single common pipistrelle was heard at 20:48. No further activity was recorded.

5 IMPACTS

5.1 Introduction

This section is supported by the results of the Extended Phase 1 Ecological Survey and presents the likely impacts, in the absence of any mitigating actions, on protected and notable habitats and species associated with the proposed development. Only those features confirmed as present on site or considered to have from low to high potential occurrence on site have been taken forward for further assessment. In addition, all designated sites located within 500m of the site have been taken forward for further assessment.

5.2 Impacts

5.2.1 *Designated Sites*

Given the limited scale of works and because the school is a least 100m from the nearest designated site, it is considered that there is negligible potential for impacts to designated sites.

5.2.2 *Habitats/Vegetation*

The habitats which will be directly impacted are buildings, hardstanding, scattered planted trees and amenity grassland, which are considered to be of low ecological value. In addition, no trees are to be felled to make way for the proposed works. Therefore there is **negligible impact to habitats of ecological importance**.

5.2.3 *Bats – Foraging and Commuting*

The school building on site was found to exhibit a number of features with potential to be utilised by crevice-roosting bat species. The limited scope of the proposals means that a very small number of such features will be impacted by the expansion works. Features to be impacted include loose lead flashing and raised concrete tiles. The wooden cladding on the eastern elevation is closely fitting with negligible potential to support roosting bats. Results of a Phase 2 survey on these features found that they are not in current use by roosting bats and the low level of activity recorded around the site indicates that the likelihood of such features being utilised is very low. Overall it is considered that there is **low potential for impacts to roosting bats**.

5.2.4 *Birds*

Areas of dense vegetation such as within the scrub and in the trees on site have the potential to support small numbers of common and widespread nesting birds. However, none of this habitat is to be impacted by the works and as such it is considered that there is **negligible potential for impacts to nesting birds**.

6 RECOMMENDATIONS

6.1 Introduction

This section provides details of recommendations considered necessary in order to ensure that potential ecological constraints are considered fully. This includes recommendations for additional survey works and for mitigation, compensation or enhancement measures to avoid, lessen or offset the identified impacts to ecological features arising from the proposed works.

6.2 Mitigation

6.2.1 *Bats*

In the unlikely event that a bat or evidence of bats is found during works, all works must cease immediately and professional ecological advice should be sought. In this event it is likely that a licence would be required from Natural England in order to avoid unlawful actions. The process of obtaining a licence can take up to ten weeks, and is subject to requirements of adequate assessment.

7 REFERENCES

Institute of Ecology and Environmental Management (2012). *Guidelines for Preliminary Ecological Appraisal*. IEEM, Winchester.

Collins (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition, Bat Conservation Trust