PRELIMINARY ECOLOGICAL APPRAISAL and BAT SCOPING REPORT

at

Nether Mill Barn
Barnsley Road
Peniston
South Yorkshire
S36 8AD

Client:
Dawson Williamson Architects

Client Address:
Hope Park Business Centre
Bradford
BD5 8HH

Client Contact:
01274 551300 (Tel)

JCA Ref:
18369/MB

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JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

Version	**Desktop Survey Completed:**		**Site Surveyed:**		**Report Completed:**		**Reviewed:**	
	Date	Name	Date	Name	Date	Name	Date	Name
Planning	11/05/22	Audrey Bourdais Paull	06/05/22	Megan Brown	16/05/22	Megan Brown	18/05/22	Adam West

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct.*

Risk Assessment Completed	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	

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Summary

JCA Limited has been commissioned by **Dawson Williamson Architects** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Nether Mill Barn, Barnsley Road**. The site is located at Ordnance Survey (OS) National Grid Reference SE 24567 03898 with nearby postcode S36 8AD.

A desk study and field survey were undertaken in order to assess the potential of the site to support protected habitats and species and species of conservation concern. Recommendations for further survey, avoidance, mitigation and enhancement – where appropriate - have been made and are summarised in Table 1 on the following page and are detailed in full in Chapter 6 of this report.

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Table 1: summary of ecological receptors at the site and recommended mitigation.

Receptor	Potential Risk to Project if No Action Taken	Cause of Impact Description of Effect	Further Survey Required	Mitigation Required
Designated sites				
Non-statutorily protected	Negligible	N/A	None	N/A
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	Negligible	N/A	None	N/A
Invertebrates	Negligible	N/A	None	N/A
Amphibians	Negligible	N/A	None	N/A
Fish	Negligible	N/A	None	N/A
Great crested newt	Negligible	N/A	None	N/A
Reptiles	Negligible	N/A	None	N/A
Birds	High	Potential breach of legislation from destruction of an active bird's nest or disturbance to breeding birds.	None	Works should aim to avoid the breeding bird season (1st February to 31st August). If works commence during this period, a suitably experienced ecologist must conduct a pre-construction inspection for active nests no more than 24 hours prior to the start of works.
Bats	High	Potential breach of legislation from disturbance to roosting bats, damage to or destruction of roosts and obstruction to roost access. Potential disturbance of commuting and foraging	Three bat surveys are required, two between May and August and one between May and September (see Section 6.1.6).	If bats are found to be roosting, the roost type must be identified, and a bat mitigation licence applied for. To prevent disturbance of commuting and foraging bats on the neighbouring woodland, appropriate

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		bats using neighbouring wooded area of Scout Dike.		lighting guidance from Institute of Lighting Professionals (ILP, 2018) should be followed.
Badgers	Low			
Otters	Negligible	N/A	None	N/A
Water voles	Negligible	N/A	None	N/A
Other Species e.g. S41 species	Negligible	N/A	None	N/A
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
Invasive Species	Negligible	N/A	None	N/A
Key: S41 habitat/species – habitats and species listed as priority for conservation importance under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. WCA Sch – Wildlife and Countryside Act 1981 (as amended) Schedule CHSR Sch – Conservation of Habitats and Species Regulations 2017 Schedule				

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1. Introduction

1.1 Background

1.1.1 In April 2022, JCA Limited was instructed by **Dawson Williamson Architects** to undertake a Preliminary Ecological Appraisal (PEA) of a site located at **Nether Mill Barn**, **Barnsley Road** hereafter referred to as 'the site'. The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed works, hereafter referred to as 'the scheme', have the potential to adversely affect any protected or notable habitats or species.

1.2 Scheme Description and Location

1.2.1 The site is located at Ordnance Survey (OS) National Grid Reference SE 24567 03898 with nearby postcode S36 8AD. The site is surrounded largely by a mixture of agricultural fields and residential areas. Bordering the site to the east is a wooded river stretch Scout Dike flowing from Local Wildlife Site (LWS) Scout Dike Reservoir. To the south, the site is bordered directly by Barnsley Road (A628) with the River Don running adjacent on the opposite side of the A road.

1.2.2 The scheme is the conversion of Nether Mill Barn into a veterinary surgery on behalf of Donaldson's Vets Ltd with associated public parking spaces.

1.3 Aims and Objectives

1.3.1 The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed development activities have the potential to adversely affect any protected or notable habitats or species. The following tasks have been undertaken:

- Desktop study – a review of environmental records for the surrounding area to obtain existing information on statutory and non-statutory designated sites of nature conservation interest, and the presence of protected and notable habitats and species within the site and its environs.
- Field survey – an Extended Phase 1 Habitat survey involving a site visit to record habitat types and dominant vegetation, including any invasive species. During this survey evidence of protected or notable fauna and

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habitats or habitat capable of supporting protected or notable fauna was recorded. This included an assessment of the buildings' bat roost potential.

- Bat roost potential survey – an identification of existing or potential roosts and the type of roost present, roost access points and the species and numbers of bats potentially present.
- Ecological report – an assessment of the potential ecological constraints to the proposed works at the site and recommendations for further survey, avoidance, mitigation, and enhancement where appropriate. Locations of any features constituting ecological constraints or of other ecological interest and vegetation recorded on and around the development are included in an accompanying Phase 1 Habitat Map (Appendix 1). This report and the maps are supported by photographs (Appendix 3) and information regarding current legislation (Appendix 7).

1.4 Legislative Context

1.4.1 In the UK, all species of bat and their roosts are fully protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, with additional protection offered under Schedule 5 of the Wildlife and Countryside (WCA) Act 1981 (as amended). This makes it an offence to:

- Deliberately or recklessly capture, injure or kill a bat;
- Deliberately or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Damage or destroy a bat roost (this is an 'absolute' offence);
- Intentionally or recklessly obstruct access to a bat roost; and/or
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

1.4.2 Under this legislation a roost is determined as any structure or place used for shelter. As bats tend to re-use the same roosts, the roost is protected whether the bats are present at the time or not.

1.4.3 Please see Appendix 4 for a more detailed overview of the UK legislation protecting bats.

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2. Methodology

2.1 Desktop Study

2.1.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites and European Protected Species (EPS) licensing applications within a 2km radius of the site. The baseline conditions are based on a review of existing available information including:

- MAGIC (Multi-Agency Geographical Information for the Countryside) website (to identify statutory designated sites and EPS licences).
- Ordnance Survey mapping (to identify potentially notable habitats including ponds).
- Aerial photography (to identify potentially notable habitats).
- Data search for records of protected/notable species on and within 2km of the site within the last ten years (exempting bat roosts, of which all records are included) obtained from Barnsley Biological Records Centre (BBRC), the local environmental records centre for Penistone, along with information for non-statutory wildlife sites.

2.1.2 The records were checked against species listed as priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the Barnsley Biodiversity Action Plan (Barnsley LBAP) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A Phase 1 survey of the site was conducted on 06/05/2022. All areas of the site were investigated and areas around the site where access permitted.

2.2.2 The vegetation and habitat types within the site were noted during the survey in accordance with the categories specified for a Phase 1 Vegetation and Habitat Survey (Joint Nature Conservation Committee, 2010). Dominant and abundant plant species were recorded for each habitat present.

2.2.3 The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the

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Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, the Wildlife & Countryside Act (WCA) 1981 (as amended), including those given a higher level of legal protection under the NERC Act 2006 and Countryside & Rights of Way (CRoW) Act 2000, and those listed on the LBAP. The following species were considered:

- Invertebrates (including white-clawed crayfish *Austropotamobius pallipes*).
- Great crested newt *Triturus cristatus* freshwater habitat potential within 500m of the site.
- Reptile habitat within the site.
- Nesting and foraging habitat for birds within the site.
- Bat roost potential and foraging habitat within the site.
- Badger *Meles meles* setts within 30m of the site, where accessible.
- Otters *Lutra lutra* and suitable habitat within 30m of the site, where accessible.
- Water vole *Arvicola amphibius* habitat within 20m of the site, where accessible.
- Other notable species.
- Invasive species.

2.2.4 Signs that bats have previously or are currently using a potential roost site include:

- Scratch marks, urine and oil stains around holes in buildings or trees.
- Droppings, carcasses and/or food remains found around the site.
- Bats observed flying in/out of a hole in a building or tree.
- Bats heard ‘chattering’ within a potential roost site, especially on warm summer days.

2.2.5 During the bat scoping survey, the building on site was subject to an external survey to establish the suitability of the structure to support roosting bats in accordance with Collins (2016). The criteria for assigning a roost suitability category are presented in Table 2 below:

Table 2: Guidelines used for assessing the bat roosting suitability of a site (taken from Collins, 2016)

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Roosting Suitability	Potential Roosting Features (PRFs) Present
Negligible	No visible features on the site likely to be used by roosting bats. No signs of bats found during the initial assessment.
Low	A structure with one or more potential roosting opportunities that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough shelter, protection, surrounding habitats, or the appropriate conditions to be used on a regular basis by larger numbers of bats e.g. unlikely to support hibernation or maternity roosts. A tree of sufficient size and age to contain features suitable for bat roosting, but with no features seen from the ground. No signs of bat use found during the initial assessment.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to the size of the potential roosting feature which is sufficient to provide: shelter, protection, optimal conditions and surrounding habitats. The feature(s) are unlikely to support a roost of high conservation status. Signs (potential signs) of bat use found during the initial assessment.
High	A structure or tree with one or more potential roost sites that could be used by bats due to the size of the potential roosting feature which is sufficient to provide: shelter, protection, optimal conditions and surrounding habitats. The features have the potential to support large colonies of bats (e.g. maternity or hibernation) for long periods of time. Signs of bat use present.

2.2.6 The category of roosting suitability assigned to a feature is used to determine what further survey effort is required to ascertain the presence/likely absence of bats within that feature, as shown in Table 3 below:

Table 3: Recommended minimum number of survey visits for presence/likely absence surveys *(taken from Collins, 2016)*.

Negligible roost suitability	Low roost suitability	Moderate roost suitability	High roost suitability
No futher survey required	One survey visit. One dusk emergence or dawn re-entry survey (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.

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2.3 Survey Constraints

2.3.1 To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. As a result, the survey undertaken focused on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2018), especially those given protection under UK wildlife legislation.

2.3.2 The optimum time of year for completing the survey is between April and September, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 06/05/2022.

2.3.3 The weather at the time of the survey was overcast and dry. This was not considered a limitation of the survey.

2.3.4 External areas of the building could be assessed for points of entry, however there was limited access to the internal areas of the building to determine potential roosting features. This was not considered to be a significant constraint on the validity of the survey findings as all potential access points were identifiable and the precautionary principle will be applied.

2.3.5 The details of this report will remain valid for a period of 18 months. If works have not commenced within this period or land use on site changes, it is recommended that a new review of the ecological conditions is undertaken.

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3. Desk Study Results

3.1 Statutory Designated Sites

3.1.1 The MAGIC website revealed no internationally designated sites within 2km of the site.

3.1.2 The MAGIC website revealed no nationally designated sites within 2km of the site.

3.2 Non-statutory Designated Sites

3.2.1 Records received from BBRC revealed one non-statutory designated site within 2km of the site; LWS Scout Dike Reservoir at approximately 350m northwest from the site.

3.3 Protected and Notable Species

3.3.1 <u>European Protected Species (EPS) Licence Applications</u>

- The MAGIC website revealed five EPS licence applications within 2km of the site:
    - A licence granted in October 2014 and ending in August 2015 for brown long-eared bats *Plecotus auritus* and common pipistrelle bats *Pipistrellus pipistrellus*. Licence reference: 2014-3842-EPS-MIT.
    - A licence granted in May 2014 and ending in August 2014 to allow for the damage of a resting place used by brown long-eared bats and common pipistrelle bats. Licence reference: 2014-694-EPS-MIT.
    - A licence granted in October 2012 and ending in August 2014 to allow for the destruction of a resting place used by common pipistrelle bats. Licence reference: EPSM2012-4929.
    - A licence granted in March 2011 and ending in February 2013 to allow for the destruction of a resting place used by common pipistrelle bats. Licence reference: EPSM2011-2745.
    - A licence granted in October 2009 and ending in August 2011 to allow for the destruction of a resting place and the destruction of a

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breeding site used by common pipistrelle bats. Licence reference: EPSM2009-1299.

3.3.2 Records of Protected and Notable Species

3.3.3 Flora

26 records of English bluebell *Hyacinthoides non-scripta,* a Schedule 8 species under the Wildlife and Countryside Act 1981 (as amended) (WCA) and a Barnsley BAP species, were received from BBRC. The most recent record was made in 2019, and the closest record was made 332m from the site.

3.3.4 Invertebrates (including white-clawed crayfish)

The following table details notable and protected invertebrate species within 2km of the site.

Table 4: Invertebrate Records Received from BBRC.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Agrochola litura	Brown-spot pinion	S41	2016	1	1467
Atethmia centrago	Centre-barred sallow	S41, UKBAP	2016	2	1467
Tyria jacobaeae	Cinnabar	S41, UKBAP, LBAP	2019	8	815
Ennomos fuscantaria	Dusky thorn	UKBAP	2021	1	1317
Hepialus humuli	Ghost moth	S41, UKBAP	2017	3	1467
Xestia agathina	Heath Rustic	S41, UKBAP	2017	1	1467
Acronicta rumicis	Knot Grass	S41, UKBAP	2015	4	1467
Caradrina Morpheus	Mottled rustic	S41, UKBAP	2016	2	1467
Amphipyra tragopoginis	Mouse moth	S41, UKBAP	2017	9	1467
Hydraecia micacea	Rosy rustic	S41, UKBAP	2016	2	1467
Coenonympha pamphilus	Small heath	S41, UKBAP	2018	5	1304
Diarsia rubi	Small Square-spot	S41, UKBAP	2017	21	1467
Lasiommata megera	Wall	S41, UKBAP	2019	82	710
Austropotamobius pallipes	White-clawed crayfish	S41, UKBAP, LBAP	2017	1	1100
Spilosoma lubricipeda	White Ermine	S41, UKBAP	2017	8	1467

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Satyrium w-album	White-letter Hairstreak	S41, UKBAP, WCA Sch 5		3	1660

WCA Sch 5: Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
LBAP: Local Biodiversity Action Plan for Barnsley
UKBAP: UK Biodiversity Action Plan

3.3.5 Fish

Three records of sea trout *Salmo trutta*, a UKBAP and Barnsley BAP species, were received from BBRC. The most recent record was made in 2014, and the closest record was made 1062m from the site.

3.3.6 Amphibians

Three records of smooth newt *Triturus vulgaris*, a UKBAP species, were received from BBRC. The most recent record was made in 2019, and the closest record was made 1330m from the site.

Four records of common frog *Rana temporaria*, a Schedule 5 (WCA) species, were received from BBRC. The most recent record was made in 2019, and the closest record was made 913m from the site.

One record of common toad *Bufo bufo,* a Schedule 5 (WCA), Section 41 and UKBAP, was received from BBRC. The most recent record was made in 2015, and the closest record was made 80m from the site.

3.3.7 Reptiles

No records of reptiles within 2km of the site were returned by BBRC.

3.3.8 Birds

The following records of bird species within 2km of the site were received from BBRC:

Table 5: Bird Records Received from BBRC.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Phoenicurus ochruros	Black redstart	WCA Sch 1	2021	1	881
Pyrrhula pyrrhula	Bullfinch	S41, UKBAP	2019	9	576
Actitis hypoleucos	Common sandpiper	WCA Sch 1	2016	2	1397
Cuculus canorus	Common cuckoo	S41	2017	1	1463

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Numenius arquata	Curlew	S41, UKBAP	2022	18	1313
Turdus pilaris	Fieldfare	WCA Sch 1	2018	7	586
Perdix perdix	Grey partridge	S41, LBAP, UKBAP	2016	1	1363
Larus argentatus	Herring gull	S41, UKBAP	2017	3	576
Passer domesticus	House sparrow	S41, UKBAP	2021	68	201
Falco tinnunculus	Kestrel	LBAP	2019	17	576
Vanellus vanellus	Lapwing	S41, UKBAP	2019	42	309
Linaria cannabina	Linnet	S41, UKBAP	2021	23	723
Falco peregrinus	Peregrine	WCA Sch 1	2016	3	1185
Turdus iliacus	Redwing	WCA Sch 1	2021	3	576
Emberiza schoeniclus	Reed Bunting	S41	2021	23	1270
Alauda arvensis	Skylark	LBAP	2019	37	803
Turdus philomelos	Song thrush	S41, UKBAP	2019	70	412
Muscicapa striata	Spotted flycatcher	S41, UKBAP	2016	1	1692
Sturnus vulgaris	Starling	S41, UKBAP	2019	33	330
Passer montanus	Tree sparrow	S41, UKBAP, LBAP	2019	15	616
Parus montanus	Willow tit	S41, UKBAP	2021	11	1396
Motacilla flava	Yellow wagtail	S41, UKBAP	2015	1	1981
Emberiza citrinella	Yellowhammer	S41, UKBAP	2021	68	732

Key:
WCA Sch 1: Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
LBAP: Local Biodiversity Action Plan for Barnsley

3.3.9 Bats

The following bat field records were received from BBRC:

Table 6: Bat Records Received from BBRC.

Scientific Name	Common Name	Designation	Latest Date	Number of records	Distance from Site (m)
Myotis sp.	Unidentified *Myotis* spp	WCA Sch 5 LBAP	2020	6	576
Myotis mystacinus/brandtii	Whiskered/Brandt's bat	WCA Sch 5 LBAP S41	2019	2	1325

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Myotis nattereri	Natterer's bat	WCA Sch 5 LBAP	2019	2	1325
Nyctalus	Nyctalus bat species	WCA Sch 5 LBAP	2019	2	1325
Nyctalus noctula	Noctule bat	WCA Sch 5 LBAP S41	2020	4	576
Pipistrellus	Pipistrelle bat	WCA Sch 5 LBAP	2021	11	119
Pipistrellus pipistrellus	Common pipistrelle	WCA Sch 5 LBAP S41	2020	11	576
Pipistrellus pygmaeus	Soprano pipistrelle	WCA Sch 5 S41 LBAP	2020	7	576

Key:
WCA: Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
LBAP: Local Biodiversity Action Plan

3.3.10 Bat Roosts

The following records were received from BBRC:

Table 7: Bat Roost Records Received from BBRC.

Scientific Name	Common Name	Roost type	Date	Distance from Site (m)
Myotis sp.	Probable whiskered/Brandt's bat	Single individual	2019	1330 m
Pipistrellus pipistrellus	Common pipistrelle	Not recorded	1997	253 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1988	326 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1988	326 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1989	326 m
Pipistrellus pipistrellus	Common pipistrelle	Occasional single individual	1991	326 m

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Pipistrellus pipistrellus	Common pipistrelle	Occasional 3 individuals	1991	326 m
Pipistrellus pipistrellus	Common pipistrelle	Occasional single individual	1993	326 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1988	326 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1991	461 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	1991	461 m
Pipistrellus pipistrellus	Common pipistrelle	Not recorded	2008	1062 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	2001	1665 m
Pipistrellus pipistrellus	Common pipistrelle	Maternity roost	2002	1665 m

3.3.11 Badgers

Six badger setts have been identified within a 2km radius of the site. The most recent record was made in 2019, and the closest badger sett has been recorded 782m from the site.

14 records of badgers *Meles meles* were received from BBRC. The most recent record was made in 2018, and the closest record was made 87m from the site.

3.3.12 Otters

No records of water voles were returned by BBRC.

3.3.13 Water Voles

No records of water voles were returned by BBRC.

3.3.14 Other Notable Species

14 records of brown hare *Lepus euroaeus* were received from BBRC. The most recent record was made in 2021, and the closest record was made 1448m from the site.

59 records of hedgehog *Erinaceus europaeus* were received from BBRC. The most recent record was made in 2021, and the closest record was made 581m from the site.

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3.3.15 Invasive Species

The following species fall under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended):

Six records of barn owl *Tyto alba*, also a Barnsley BAP species, were received from BBRC. The most recent record was made in 2022, and the closest record was made 798m from the site.

Two records of red kite *Milvus milvus* were received from BBRC. The most recent record was made in 2021, and the closest record was made 1062m from the site.

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4. Field Survey Results

4.1 Habitats

4.1.1 Amenity grassland

Patches of amenity grassland are present within the site boundary, on the southern border and adjacent to Nether Mill Barn (see **Appendix 1**). Perennial rye grass *Lolium perenne* dominates this habitat type. Also recorded within this habitat were white clover *Trifolium repens*, dandelion *Taraxacum officinale*, ribwort plantain *Plantago lanceolata* and common daisy *Bellis perennis*.

4.1.2 Ephemeral/short perennial

Small patches of ephemeral vegetation were present amongst the hardstanding onsite (see **Appendix 1**). The species recorded within this habitat type include mouse-ear chickweed *Cerastium fontanum*, spiny sow-thistle *Sonchus asper*, Shepard's purse *Capsella bursa-pastoris*, fringed willowherb *Epilobium ciliatum*, pineapple weed *Matricaria discoidea*, common daisy, Yorkshire fog *Holcus lanatus*, ribwort plantain and field forget-me-not *Myosotis arvensis*.

4.1.3 Hardstanding

A large proportion of the current land onsite consists of hardstanding (see **Appendix 1**).

4.1.4 Buildings/structures

Nether Mill Barn was assessed for its potential to support roosting bats. The building is a Grade II Listed building, constructed of local grit stone with heavy stone quoins. A number of door and window openings are present around the building. Within the building, the space has been subdivided by masonry walls and concrete forms to create cattle standings from previous agricultural use. Evidence of some original cruck frames is present inside, with some seemingly removed, damaged or replaced overtime.

PRFs present: There are a number of gaps present around the building where bats could enter.

- Along the full length of the northwest elevation of the building, gaps are present beneath the roof tiles (Appendix 3, Photo 5). A starling *Sturnus vulgaris* was witnessed entering under one of these gaps.
- A window is present on the northwest elevation with a gap above permitting entry into the building (Appendix 3, Photo 6).

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- A large opening in the stonework is present on the southwest elevation with gaps between vertical wooden slats (Appendix 3, Photo 7).
- Along the southeast elevation, access was gained to the northernmost door into a secluded room with stone walls (Appendix 3, Photo 8). Potential roosting features could be provided from gaps between the timber and internal building walls (Appendix 3, Photo 9).
- Crevices are present on the southeast elevation towards to the east corner, and on both sides of the east corner of the building (Appendix 3, Photos 10-12).

A second building, with previous use as stables and for machine storage, is present on the site boundary (Appendix 3, Photo 13). No current work is proposed to this building and therefore this was not assessed for its bat roost potential.

4.2 Protected and Notable Species

4.2.1 Flora

No protected or notable flora was identified onsite. English bluebells were noted within the neighbouring woodland on the opposite side of Scout Dike. However, the site does not offer suitable habitat to support this species. Flora will, therefore, not be mentioned further in this report.

4.2.2 Invertebrates (including white-clawed crayfish)

The site offers limited value to invertebrate species, within only small patches of amenity grassland and ephemeral vegetation containing few locally common species. With ample suitable habitat in the surrounding area of the woodland and grassland fields, no impact on invertebrates is expected of the development. Invertebrates will, therefore, not be mentioned further in this report.

4.2.3 Fish

The site contains no suitable aquatic habitat to support fish; this taxon will therefore not be mentioned further in this report.

4.2.4 Amphibians

The site contains no suitable habitat to support amphibians, however suitable habitat is available in the neighbouring habitat of Scout Dike.

4.2.5 Reptiles

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The site lacks the mosaic of habitats required by reptiles to provide areas for shelter, basking and foraging. In addition, no records of reptiles were returned from the data search, therefore reptiles will not be mentioned further in this report.

4.2.6 Birds

The site contains vegetation of little foraging value for birds. Additionally, no vegetation present could support nesting birds. However, a starling *Sturnus vulgaris* was witnessed entering the building under the roof tiles, where it could be likely nesting within. Suitable foraging and nesting habitat is present within the neighbouring woodland of Scout Dike where a number of birds were witnessed, including: robin *Erithacus rubecula*, blackbird *Turdus merula*, wood pigeon *Columba palumbus*, great tit *Parus major*, chiff chaff *Phylloscopus collybita* and song thrush *Turdus philomelos*.

4.2.7 Bats

Nether Mill Barn was assessed for its potential to support roosting bats (see **Section 4.1.1**). No vegetation is present onsite to support roosting or foraging, however the site is bordered by favourable habitat to the east of Scout Dike wooded river.

4.2.8 Badgers

No habitat to support badgers was identified onsite, however there is the potential for badgers to migrate onto site from suitable surrounding habitat.

4.2.9 Otters

No records of otters from the desk study or suitable habitat to support otters was identified onsite. Otters will, therefore, not be mentioned further in this report.

4.2.10 Water Voles

No records of water voles or habitat to support them was identified. Water voles will therefore not be mentioned further in this report.

4.2.11 Other Notable Species

No potential for other notable species was noted onsite.

4.2.12 Invasive Species

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No invasive species were noted onsite. Invasive species will therefore not be mentioned further in this report.

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5. Assessment

5.1 Designated Sites

5.1.1 Non-statutory designated sites

One non-statutory designated site was present within 2km of the site boundary; Scout Dike reservoir at approximately 350m from the site. Due to the nature of the development, the development is expected to have a limited impact on the designated site.

5.2 Habitats

5.2.1 The most valuable habitat for biodiversity is Nether Mill Barn itself for its potential to support roosting bats and nesting birds.

5.2.2 The other habitats described in Chapter 4, Section 4.1 have lower biodiversity and provide less opportunity to support protected or notable species. The flora recorded in these habitats is considered to be locally common and widespread and they do not fall into any of the NERC S41 or Local BAP Priority Habitat descriptions.

5.3 Protected and Notable Species

5.1.1 Amphibians

Despite the close proximity of Scout Dike offering potential habitat to amphibians, with records of common toad 80m from the site, the site is bordered by dry stone walls limiting the possibility for amphibians to migrate onto site. The site is also bordered to the south by A road Barnsley Road, acting as a barrier to dispersal. As no valuable habitat for amphibians is present onsite, it is considered unlikely for the development to impact amphibians. No further recommendations are considered necessary at present.

5.1.2 Birds

Valuable foraging and nesting habitat for birds is present in neighbouring woodland of Scout Dike, however due to the nature of the development, no impact on birds utilising this area is expected. Due to the presence of a starling potentially nesting within Nether Mill Barn, further recommendations are necessary to avoid a potential breach of legislation from destruction of an active bird's nest or disturbance to breeding birds.

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5.1.3 Bats

Eight species of bat have been recorded within 2km of the site, the closest field records of common pipistrelle at 119m from the site. In addition, 14 bat roost records were returned, ten of which are within 500m of the site. The proximity of these roosts increases the likelihood of bats being present onsite. High quality foraging habitat of Scout Dike wooded river is also present bordering the site.

Based on the proximity of roost records, the type of PRFs present (see Section 4.1.4) and the proximity of high-quality bat foraging habitat, Nether Mill Barn is considered to have **high** potential for supporting roosting bat species during their active period between May and September. Please see Tables 2 and 3 above for the guidelines used for assessing the roosting potential of a site. Please note these guidelines are applied using the professional judgement of the licenced bat worker undertaking the assessment.

The second stables building on the site border was not to be impacted by the development, however a full bat scope would be necessary on this building should development plans change.

Due to high quality foraging habitat of Scout Dike bordering the site, appropriate lighting recommendations in line with the information provided by the Institute of Lighting Professionals (ILP, 2018) have been provided below (see Section 6) to limit the disturbance of foraging and commuting bats, including a dark corridor to cover this area.

5.1.4 Badgers

The site contains no suitable habitat to form sett creation and provides little in the way of foraging opportunities. However, records returned from the data search identified badger records as close as 87m to the site. With suitable habitat within the surrounding area of the site, there is the potential for badgers to be found commuting through the site.

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6 Recommendations

6.1.1 For Nether Mill Barn, three emergence/re-entry surveys are required to ascertain the presence/likely absence of roosting bats. Of the three surveys to be undertaken, at least one dusk emergence and a separate dawn re-entry survey is required. The third visit could be either dusk or dawn. Surveys should be carried out between May and September, at least 14 days apart, with at least two surveys between May and August. Upon completion of the three surveys if any bats are found to emerge or re-enter the building, the roost type will be able to be then accurately characterised.

6.1.2 If bats are then confirmed to be roosting on the site, a Bat Mitigation Licence may be applied for from Natural England, and a mitigation plan devised so the development causes as little impact on the local bat populations as possible.

6.1.3 Works should aim to avoid the breeding bird season (1st February to 31st August). If works commence during this period, a suitably experienced ecologist must conduct a pre-construction inspection for active nests no more than 24 hours prior to the start of works.

6.1.4 Inappropriate lighting in the vicinity of bat roosts can cause disturbance to bat populations and individuals and could be constituted as an offence under the Wildlife and Countryside Act 1981. As such, we have prepared guidance in line with the information provided by the Institute of Lighting Professionals (ILP, 2018) to aid in planning lighting schemes with the aim of limiting the impact that lighting may have on local bat populations.

It is important to avoid:

- Uniform levels of luminance across the site.
- Metal halide and florescent lighting.
- Upward tilting lighting that increases skyline luminance.

Instead, the following should be installed:

- Dark buffer zones, including a creation of a dark corridor for neighbouring Scout Dike woodland
- Screening in the form of vegetation, fences and structures.

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- Appropriately designated darkened areas.
- Luminaries absent of UV elements
- LED luminaries with a sharp cut-off, low intensity and good rendition.
- Peak luminaire wavelength at a minimum of 550nm.
- Downward directional luminaires with upward light ratios of 0%.

6.1.5 To permit badger migration and safe passage of badgers through the site, any excavations created during the development stage must be covered at night or appropriate escape routes implemented. Planks to be placed at a 45-degree angle for badgers to escape safely.

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7 References

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

Chartered Institute of Ecology and Environmental Management (CIEEM), (2015) *Guidelines for Ecological Report Writing*. Winchester.

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Websites:

Advice on protected species is consolidated at:
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Magic Map Application (2016) *Magic.defra.gov.uk*. Available at: http://magic.defra.gov.uk/MagicMap.aspx

The RSPB (2016). Available at: http://www.rspb.org.uk/

Surveys and mitigation plans: protected species - Detailed guidance (2015) *Gov.uk*. Available at: https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

Wildlife licences: when you need to apply - Detailed guidance (2014) *Gov.uk*. Available at: https://www.gov.uk/guidance/wildlife-licences

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts
- Badgers

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squirrel
- Plants

Species Specific Information:

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Badgers:

Natural England, (2007) Badgers and Development: A Guide to Best Practice and Licensing.

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Strachan, R. (2009), Populations and Persistence – Developing a Strategy for Conserving Water Voles in the UK, Presentation to Warwickshire Wildlife Trust, 2nd April 2009, Environment Agency, Wales

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White-clawed Crayfish:

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Relevant Legislation:

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Countryside and Rights of Way Act 2000 (c.37). Available at: http://www.legislation.gov.uk/ukpga/2000/37/contents

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111176573

Conservation of natural habitats and of wild fauna and flora Council Directive (92/43/EEC) (The Habitats Directive) (as amended) Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043

Protection of Badgers Act 1992 (c. 51). Available at: http://www.legislation.gov.uk/ukpga/1992/51/contents

The Hedgerow Regulations 1997 (No. 1160). Available at: http://www.legislation.gov.uk/uksi/1997/1160/contents/made

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Appendices

Appendix 1: Phase 1 Habitat Map

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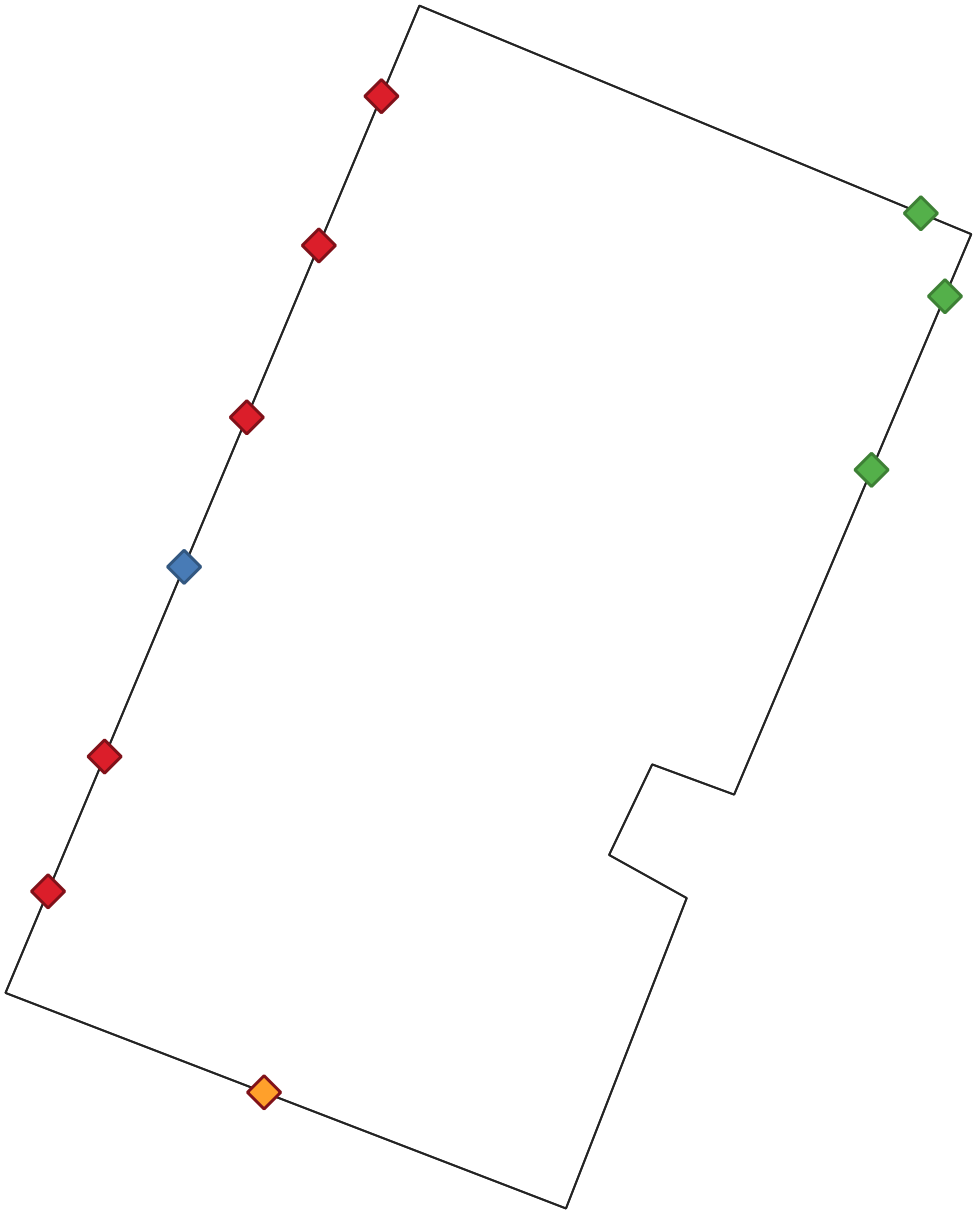
Nether Mill Barn
Phase 1 Habitat Map

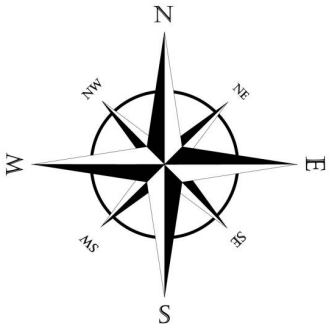


Appendix 2: Bat Roosting Scoping Plan

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Nether Mill Barn
Bat Scoping Plan





Key:

- Crevices in wall
- Opening with wooden slats
- Window with gap above
- Gaps under roof tiles
- Bat scope building (Nehter Mill Barn)

Appendix 3: Photographic Evidence



Photo 1: View of northwest elevation of Nether Mill Barn



Photo 2: View of southwest elevation of Nether Mill Barn



Photo 3: View of southeast elevation of Nether Mill Barn



Photo 4: View of northeast elevation of Nether Mill Barn.



Photo 5: Gaps under roof of the northwest elevation



Photo 6: Gap above window on the northwest elevation

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Photo 7: Opening on southwest elevation.



Photo 8: Secluded room gained access to on the southeast side of the building



Photo 9: PRF between the timber and walls within southeast room

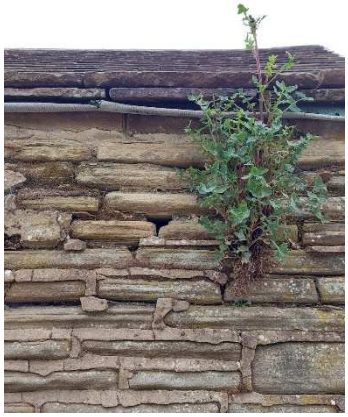


Photo 10: Crevices on the southeast elevation.

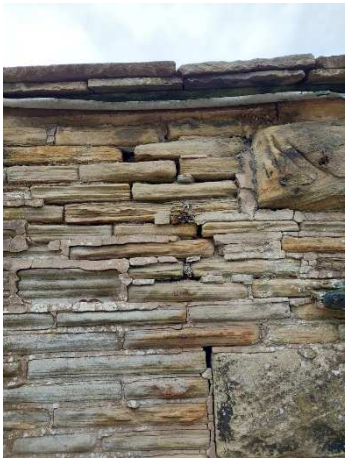


Photo 11: Crevices on the southern corner of the building



Photo 12: Crevice on the south corner of the building.

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Photo 13: Stables building on the site boundary, not currently affected by development plans



Photo 14: Hardstanding onsite with drystone wall border between the site and Scout Dike on the east border



Photo 15: Ephemeral vegetation at the southeast of the site.

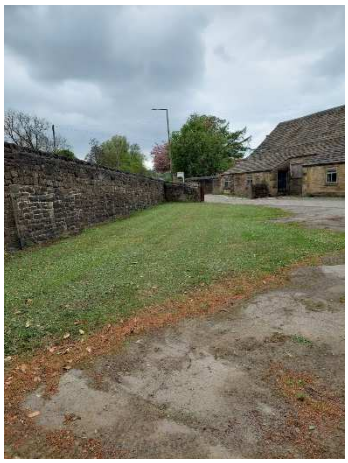


Photo 16: Amenity grassland at the southeast of the site.

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Appendix 4: Legislation Pertaining to the Protection of Bats

All bat species have, for some time, been protected under schedule 5 of the Wildlife & Countryside Act 1981. However, the effective protection for bats now comes from Schedule 2 of the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which defines "European protected species of animals". Changes to legislation, and devolution, mean the law is difficult to summarise succinctly across the UK, but the strong legal protection for bats and roosts remains.

It is an offence across the UK to:

- deliberately or recklessly capture, injure or kill a bat
- deliberately or recklessly disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, breed or rear young
- damage or destroy a bat roost (this is an ‘absolute’ offence)
- intentionally or recklessly obstruct access to a bat roost
- possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

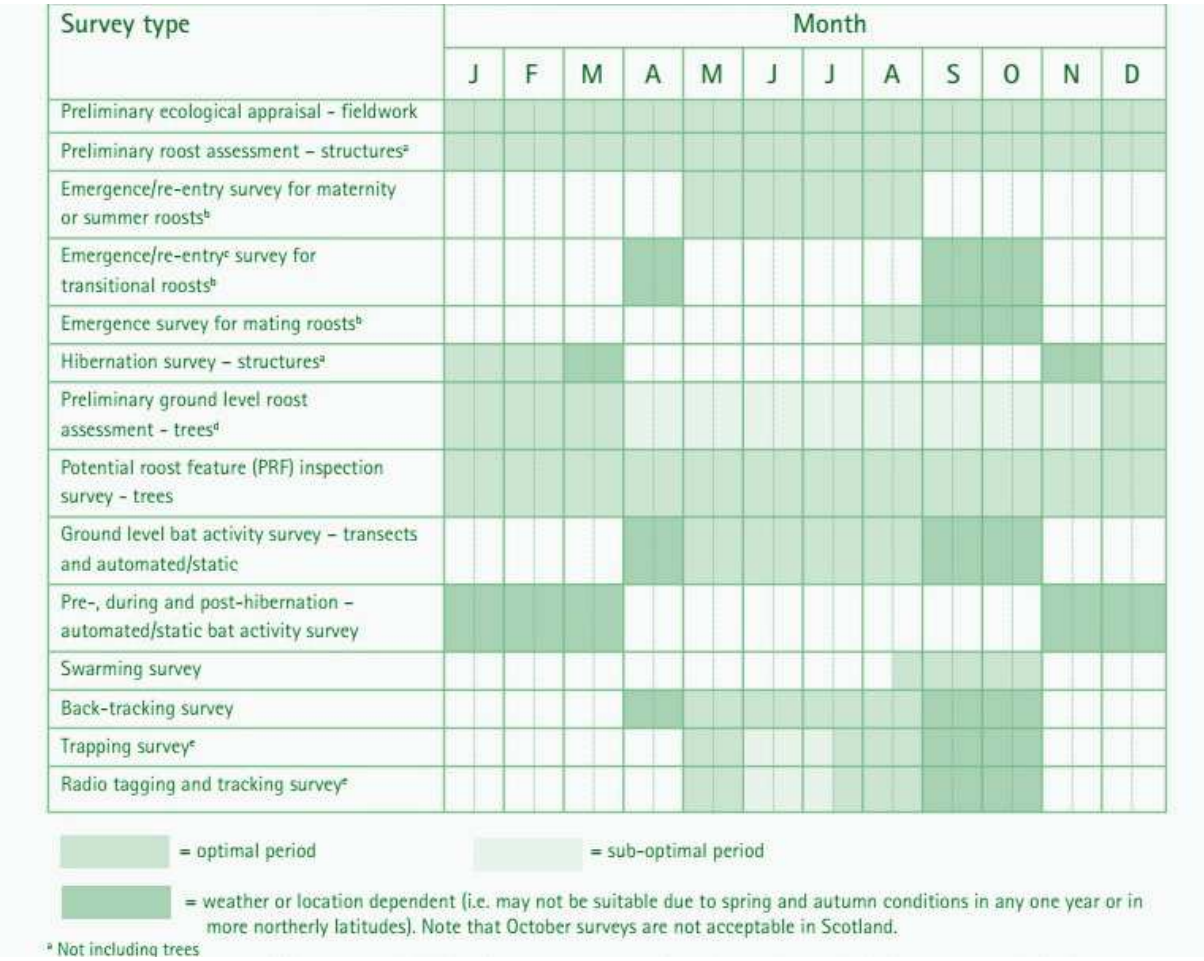
'Deliberately' in this context may be interpreted as someone who, although not intending to capture/injure or kill a bat, performed the relevant action, being sufficiently informed and aware of the consequence his/her action will most likely have.

In this interpretation, a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". Because bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time.

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Appendix 5: Bat Survey Calendar

Figure 1: Survey timings calendar (taken from BCT: Bat surveys for professional Ecologists, Good Practice Guidelines; 3rd Edition).



Survey type	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Preliminary ecological appraisal - fieldwork												
Preliminary roost assessment – structures[a]												
Emergence/re-entry survey for maternity or summer roosts[b]												
Emergence/re-entry[c] survey for transitional roosts[b]												
Emergence survey for mating roosts[b]												
Hibernation survey – structures[a]												
Preliminary ground level roost assessment - trees[d]												
Potential roost feature (PRF) inspection survey - trees												
Ground level bat activity survey – transects and automated/static												
Pre-, during and post-hibernation – automated/static bat activity survey												
Swarming survey												
Back-tracking survey												
Trapping survey[e]												
Radio tagging and tracking survey[e]												

= optimal period = sub-optimal period

= weather or location dependent (i.e. may not be suitable due to spring and autumn conditions in any one year or in more northerly latitudes). Note that October surveys are not acceptable in Scotland.

[a] Not including trees

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Appendix 6: Glossary

Activity surveys - are used to assess the level of bat activity at a site. This can be done either by using equipment such as an AnaBat device, or manually walking around a site with a heterodyne detector, documenting the number of bat passes and interceptions.

Dawn surveys - begin around 2 hours before and up to sunrise when bats are returning to their roosts from foraging, and swarming behaviour can be seen close to roost entrances.

Dusk surveys - begin around 30 minutes before sunset and up to 2 hours afterwards. These are done in order to see bats emerging from their roost sites at night.

Echolocation – is a system similar to sonar that allows bats to travel and forage even in total darkness. Bats make a call and then listen to the returning echoes in order to build up a map of their surrounding area. This allows bats to gauge the identity and distance of an object by how long the echo takes to return to them.

Habitat - the ecological or environmental area that is inhabited by a particular species of animal, plant or other type of organism.

Hibernation - is a state of inactivity and metabolic depression characterized by lower body temperature, slower breathing, and lower metabolic rate. Hibernating animals conserve energy, especially during winter when food is short, tapping energy reserves, i.e. body fat, at a slow rate.

Hibernacula - typically consist of underground sites, such as caves and cellars, which remain relatively cold and humid. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. These will typically be colonised around November to around March.

Insectivorous – is when an organism feeds exclusively on insects.

Nocturnal - a behaviour characterized by being active during the night and sleeping during the day.

Maternity roosts – colonised around late May early June and consist of mature females and their young. These roosts need to be warm and quiet, and are used up until around August, with females typically leaving first and then the young.

Mating roosts – mating begins around late October to November. Males of most species use special mating calls to attract females. These can include purrs, clicks and buzzing.

Roost – a site where bats live during the day, rear young and hibernate. These can be in man made structures, such as buildings, bridges, tunnels, cellars and mines, or natural features such as mature trees and caves.

Roosts in buildings – many types of buildings will be used by bats. The most likely sites are agricultural buildings (e.g. farmhouses and barns), buildings with exposed wooden beams (greater than 20cm thick), buildings with weather boarding and/or hanging tiles, and buildings close to woodland and/or water.

Roosts in trees – these are typically in mature trees with deep sheltered cracks, under loose sections of bark, or in woodpecker holes.

Species – a group of organisms in which all members can interbreed and produce viable offspring.

Summer roosts (non-breeding) - these are generally occupied by groups of males and immature females during the summer, and are usually only occupied for a short period before the group moves to another location.

Swarming – a behaviour exhibited by bats returning to their roost sites at dawn. Bats can be seen repeatedly flying to and from the roost entrance, making it much easier for consultants to identify where roosts are on a building or structure.

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Temporary/Transitory roosts – These are used after hibernation (March – April) before mature females disperse to maternity roosts and male/immature females colonise summer (non-breeding) roosts. Similarly, temporary roosts form before hibernation (August -October).

Underground Roosts – these are typically used during the winter and can be mines, caves, tunnels or cellars.

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Appendix 7: Protected Species Information

The following species are fully protected in UK law, under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019:

- All UK bat species
- Dormouse
- Great Crested Newt and Natterjack Toad
- Large Blue Butterfly
- Otter
- Pine Marten
- Polecat
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.

In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981 (as amended):

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

The Wildlife and Countryside Act 1981 also contains measures to prevent the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales (e.g. Japanese Knotweed and Himalayan Balsam).

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Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

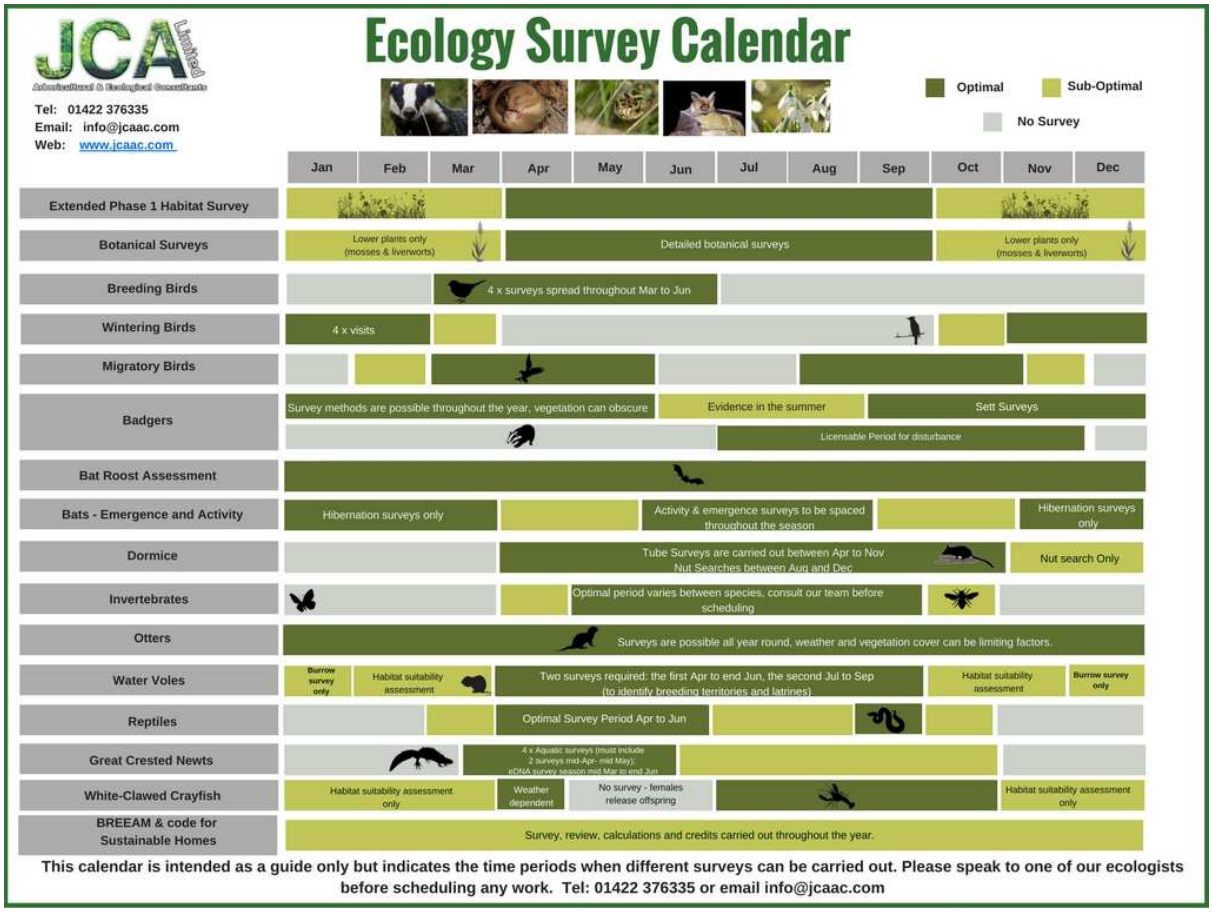
The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders

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Appendix 8: Survey Calendar

Figure 2: Survey calendar for protected species and habitat surveys.



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Appendix 9: Author Qualifications

Adam West, Principal Ecologist

BSc (Hons) Animal and Wildlife Management.

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Batchelor's degree, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence, a Natural England Level 2 bat survey class licence (and the Scottish and Welsh equivalents) and a CSCS card.

Megan Brown, Graduate Ecologist

MSc Zoo Conservation Biology, BSc (Hons) Zoology.

Megan joined JCA in 2021 after completing her master's degree in Zoo Conservation Biology from Manchester Metropolitan University. After graduating from Newcastle University with First Class Honours in Zoology, Megan joined a local survey group and now has over two years of experience in conducting ecological surveys across a variety of habitat types and taxa. She is continuing to broaden her survey experience at JCA while applying her knowledge, identification and report writing skills to her role as a Graduate Ecologist.

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The Information and advice which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



.....

Megan Brown *Qualifying CIEEM member*

16/05/2022

Reviewed by



.....

Adam West

18/05/2022

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For and on behalf of ***JCA Ltd***

Registered Office:

Unit 80

Bowers Mill

Branch Road

Barkisland

Halifax

HX4 OAD

Tel. 01422 376335

Fax. 01422 376232

Email: jon@jcaac.com

Web: www.jcaac.com

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

JCA Limited

Arboricultural & Ecological Consultants



HEAD QUARTERS

Unit 80 Bowers Mill,
Branch Road,
Barkisland
Halifax, HX4 0AD

Company Reg No: 05005041