Preliminary Roost Assessment (PRA)

of

Widgeham Barn,

Laxfield Road,

Fressingfield,

IP21 5PY

For

Louise Howie

July 2023

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1	DRAFT	ET	05/07/23		
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Contents

1. Executive Summary

DCS Ecology Ltd. was commissioned by Louise Howie to conduct a preliminary roost assessment of the barn at Widgeham barn, Laxfield road, Fressingfield, IP21 5PY central grid reference TM 27034 76754 (Figure 1) hereafter referred to as 'the Site'.

Situated 1km southeast of the village of Fressingfield. The site is approximately 50m^2 of a workshop barn with a pitched pantile roof set within the curtilage of Widgeham barn. Adjacent to site is a residential house and agricultural fields used for grazing livestock. The site is proposed for a conversion of the barn/workshop into a holiday let/annex.

A PRA survey was conducted by DCS Ecology Ltd. On the 5th of July 2023, in weather conditions with good visibility. The assessed building (Widgeham barn workshop) was found to have **negligible bat roost potential**. The survey was conducted according to Bat Conservation Trust (BCT) guidelines and following updated BCT interim guidance (BCT, 2022). The surveys found that no bats or signs of bats were present.

2. Introduction

2.1 Background

A Preliminary Roost assessment (PRA) survey was conducted on the 5th of July 2023, in weather conditions with good visibility. The survey was conducted on behalf of Louise Howie for the proposal of a conversion of a workshop barn into holiday let/annex.

The surveys were required to inform a Planning Application prior to the commencement of works and authorized planning consent.

The survey was conducted by Duncan Sweeting LCG (NE bat class survey licence level 2 (WML-CL18) and Lizzie Thurston (Undergraduate) according to Bat Conservation Trust (BCT) guidelines and following updated BCT interim guidance (BCT, 2022).

2.2 Legislative Context

All bat species and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2010 (as amended). Under this legislation it is an offence to intentionally or recklessly:

- Capture, injure or kill a bat
- Disturb a bat
- Destroy or obstruct access to a bat roost.

The National Planning Policy Framework (NPPF) 2021 places responsibility on Local Planning Authorities (LPAs) to aim to conserve and enhance biodiversity in and around developments. Section 40 of the Natural Environment and Rural Communities (NERC) Act requires every public body to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. Biodiversity, as covered by the Section 40 duty, is not confined to habitats and species of principal importance but refers to all species and habitats. However, the expectation is that public bodies would refer to the Section 41 list (of species and habitats) through compliance with the Section 40 duty.

2.3 Survey Objectives

- Determine the presence or likely absence of bats
- Locate any bat roosts present and determine the species (where possible)
- Estimate the size of the bat roost (e.g., small/ moderate/large)
- Identify access/egress points to and from potential/confirmed roosts
- Assess potential flight paths to and from potential/confirmed roosts in terms of the arrangement of current vegetation and lighting layout
- Determine the status and seasonal usage of any roosts present.

2.4 Site description

The site is a workshop barn approximately 50m^2, situated 1km Southeast of the village of Fressingfield (see figure 1). The barn consisted of a modern red brick-base with a timber frame and weather boards. The roof was pitched and had pantiles over bitumen under felt.

Directly adjacent habitats include hardstanding used for parking and access, a modern barn, a house/dwelling, and the associated garden.

Beyond the site, the wider countryside consisted predominately of agricultural fields used for grazing and arable crops. To the east of site there is a small stream approximately 165m away that could provide foraging opportunities for bat species. There are two mature broadleaved woodlands near site that could provide suitable roosting and foraging for bat species. One is 1.9ha and is 200m east of site the other is 1.4ha and approx. 100m south of site.

Figure 1. Site location (outlined in red) (1:25000) Based upon Ordnance Survey (c) Crown Copyright under licence 100064616.

2.5 Proposals and Potential Impacts

Development proposals include the conversion of the workshop into a holiday let/annex. The survey found no signs of past or current bat use therefor potential impacts are negligible. Potential bats in adjacent habitats would not be impacted by the conversion as the development is small and surrounding habitats such as grazing fields and woodlands provide more suitable foraging habitat and roost opportunities for bat species.

Bat Ecology

There are 18 species of bat found in the UK, of which 17 are known to be breeding. 13 species have been recorded in Suffolk, five of these are subject to National Biodiversity Action Plans: these are lesser horseshoe (*Rhinolophus hipposideros*), barbastelle (*Barbastella barbastellus*), noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auratus*), and soprano pipistrelles (*Pipistrellus pygmaeus*).

Bats are the only flying mammal, their wings have a similar structure to the hand and arm of a human, with skin stretched between long fingers and the body. In Britain, bats range in size from 4-7g (pipistrelles) to 40 g (noctules).

Bats are found around the world and many species eat fruit and nectar; however, all British bats are insectivorous. Bats utilise different methods to hunt (such as catching insects on the wing and gleaning), hunt a variety of prey species (including midges, beetles, and spiders), and use echolocation, passive hearing, and vision to find their prey at night (passive hearing is used by gleaning bats that capture non-flying insects on the ground or trees). Echolocation is a very sophisticated sonar system, whereby bats emit short, high frequency sounds and use the information/echoes returning to them to construct an image of their environment and locate their prey.

Roosts provide bats with shelter from predators and variable weather conditions. Bats will use different roost sites throughout the year, which are selected based on current physiological requirements. These roosts can be used for hibernation, reproduction, and as transient day roosts. Bats will utilise natural roost sites (including tree-holes, caves, and cavities in exposed rocks) and those provided by human construction (such as houses), which mimic natural roost sites. Opportunities are abundant within residential housing; bats can use roof spaces, cavity walls, window frames, weatherboarding, tiles, and many other crevices and cavities. Roost sites are often near to foraging habitat or commuting routes, most likely this is near woodland or water, however roost sites can, and have, been found in apparently isolated locations.

Foraging habitat consists of any habitat which attracts invertebrate prey, such as trees, hedgerows, woodland, scrub, rivers, and waterbodies and open areas such as grassland (particularly where this is grazed, as livestock attract some invertebrates). Linear features such as hedgerows, woodland edges and rides, tree lines and rivers are typically used for commuting between roosting locations and foraging habitat, particularly by smaller bat species which seek cover from predators and shelter from weather. Such corridors are also used by migratory bat species, such as Nathusius' pipistrelle (*Pipistrellus nathusii*) and noctule when moving longer distances between maternity and hibernation areas. As such, the conservation of these habitat features, as well as their protected roost sites, is particularly important for bats, and these can be threatened particularly by larger scale development and infrastructure.

3. Methods

3.1 ***Desk Study***

Data obtained from the Suffolk (SBIS) was used to conduct a species search, for any information regarding bat species records within a 2km radius of the Site. The data was received on the 6th of July 2023.

A desk study using MAGIC MAPS (http://www.natureonthemap.naturalengland.org.uk/) was undertaken on 6th of July 2023 to review records of protected/priority species within a defined search area (7km) and priority habitats (2km) from the centre of the site.

3.2 ***Field Survey***

A Preliminary Roost Assessment was carried out by Duncan Sweeting LCG (Natural England Bat Class Survey Licence WML-CL18) and Lizzie Thurston (undergraduate) on the 4th of July 2023 in accordance with the Good Practice Guidelines for roost assessments set out by the BCT. Weather conditions during the survey were cloudy (90% cloud cover), light air (Beaufort scale 1 to 1.5) and a temperature of 17°C, with good visibility for all accessible external areas of the building and internal with the aid of torches.

The buildings were surveyed externally, and internally where possible, for their suitability to support roosting bats according to BCT Good Practice Guidelines (Collins, 2016). The buildings were systematically searched for potential bat roost features (PRFs) and any evidence of roosting bats such as fur staining, urine splashes, droppings, smoothness at entry points and feeding remains. A torch, extendable mirror, binoculars, endoscope, and a thermal imaging camera were used to investigate accessible features where necessary.

The survey gives particular attention to the following Potential Bat Roost Features

(PBRFs):

- Gaps between ridge tiles and ridge and roof tiles, usually where the mortar has fallen our or the tiles are broken or lifted,
- The ridge area of the roof (particularly between the ridge beam and roofing material),
- Lifted lead flashing associated with roof valleys, ridges, and hips, or where lead flashing replaces tiles,
- Spaces between external weatherboarding/cladding and the timber frame or Walls,
- Gaps behind window frames, lintels and doorways including the main doors,
- Tenon and mortise joints between truss beams and braces and the principal support columns,
- Cracks and crevices in timbers,
- Gaps between stones or bricks (especially where purlins enter the wall and by the wall plate),
- Surfaces such as the ground, ledges, windows, sills or walls, machinery or stored material within the barns (which should be searched for bat droppings and/or urine sports or stains).

Following completion of the external and internal surveys, each building/structure is classified in one of the following categories:

Confirmed bat roost: presence determined from evidence of bats.

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.

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 is unlikely to support a roost of high conservation status.

Low potential: A structure with one or more potential roost sites that could be used by individual bats opportunistically. These sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger number of bats (e.g., unlikely to be suitable for maternity or hibernation).

Negligible potential: No habitat features likely to be used by roosting bats.

3.3 ***Survey Limitations***

No survey limitations were noted.

4. Results

4.1 *Desk Study Results*

A single species data search was undertaken on 06/07/2023 by DCS Ecology Ltd. using data from MAGIC Maps and SBIS data (Maps illustrating the following data are included in Appendix III).

Data Search SBIS (07/07/23)

The search returned 21 records of bats within 2 km of the site, the most recent being from 2015. The data search showed records of at least five confirmed bat species in the area, which could potentially roost within the site. These included four records of brown long-eared (*Plecotus auratus*), one unidentified log-eared bat species (*Plecotus*), two records of soprano pipistrelle (*Pipistrellus pygmaeus*) nine of unidentified pipistrelle (*Pipistrellus sp.*), one of Nathusius's Pipistrelle (*Pipistrellus nathusii*), one of Serotine (*Eptesicus serotinus*) and two of barbastelle (*Barbastella barbastellus*), and one of an unidentified myotis (*Myotis*) bat species.

Magic Map Data Search (06/07/23)

Table 1: MAGIC map system bat EPS licence applications within a 7km radius (see map in Appendix IV)

Case reference of granted application	*Species on the licence*	*Damage/ destruction of breeding site*	*Damage/ destruction of a resting place*	*Grid Ref*	*Nearest Location*
2014-3925-EPS-MIT	BARB,BLE,C-PIP,NATT,S-PIP	***N***	***Y***	***TM28277552***	***Silverley's Green***
2016-23543-EPS-MIT	BLE,C-PIP,S-PIP	***N***	***Y***	***TM32298109***	***St James South Elmham***
2019-41995-EPS-MIT	BLE,C-PIP,S-PIP	***N***	***Y***	***TM30487500***	***Cratfield***
2020-45931-EPS-MIT	C-PIP,NATT	***N***	***Y***	***TM27777481***	***Silverley's Green***
2020-45931-EPS-MIT-1	BARB,BLE,C-PIP,NATT,S-PIP	***Y***	***Y***	***TM27777481***	***Silverley's Green***
2020-45931-EPS-MIT-2	BARB,BLE,C-PIP,NATT,S-PIP	***Y***	***Y***	***TM27777481***	***Silverley's Green***
2020-48462-EPS-BDX	S-PIP	***Y***	***Y***	***TM30977511***	***Cratfield***
2020-48956-EPS-MIT	BARB,BLE,C-PIP,NATT	***N***	***Y***	***TM27887130***	***Laxfield***

The MAGIC data search returned 8 records of past and current EPS licences within a 7km radius, including five bat species. These were Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brown Long-eared (*Plecotus auratus*), Natterers (*Myotis natterer*i) and Barbastelle (*Barbastella barbastellus*). The nearest record to site was an EPS licence record (2014-3925-EPS-MIT) in 2014 that was 1.7km to the southeast of site for the destruction of a resting place. Including barbastelle, brown long-eared, common pipistrelle, soprano pipistrelle, and natterers bat.

For species abbreviation definitions, please see Appendix VI.

Priority Habitats

Priority habitats within 2km of site included lowland meadows, ancient woodland (Bush Wood), deciduous woodland and traditional orchards. Mature and ancient trees, due to decay and biological damage from age, typically have more natural features (such as welds, trunk cavities, hollows, rot holes, bark crevices, cracks, fissures, and woodpecker holes) that could provide highly preferable roosting opportunities for bats. Habitats such as orchards, meadows and woodlands provide opportunities for foraging bats.

4.2 *Field Survey Results*

At the time of the survey, the building on Site was a barn used as a workshop. The building consisted of a modern red brick base with a timber frame. Weather boarding on the externals was attached to oriented strand board (obs) on the timber frame. The roof was a pitch roof meaning there was no ridge line, and the pan tiles were in a reasonably good condition. A few tiles were displaced. These tiles were inspected, and a thermal imaging camera was used however there was no sign of present or previous use by bats. The tiles had bitumen under felt making internal access to the building via the roof negligible. On the west elevation there were two 500w halogen passive infrared flood lights.

Internally the barn was divided into two rooms with the first room having obs board around most of the room and silver back bubble wrap insulation that was directly on the external obs board meaning there were no wall cavities. Joints within the timber frame were modern and sealed not allowing for bat access/roosts. The second room after the block partition was completely boarded and sealed with no signs of bats or bat access.

The Site was surrounded by agricultural fields used for grazing and arable crops. To the east of site there is a small stream approximately 165m away that could provide foraging opportunities for bat species. There are two mature broadleaved woodlands near site that could provide suitable roosting and foraging for bat species one is 1.9ha and is 200m east of site the other is 1.4ha and approx. 100m south of site.

The barn was searched thoroughly with a torch, endoscope, and thermal imaging and no bats were seen. A search for droppings or feeding remains was carried out. There were no signs of bats on the externals of the building within lifted weather boarding or displaced tiles and there were no signs of bats using the barn internally. Inside the barn and surrounding the barn were inspected and no droppings or staining to indicated present or previous use by bat species was found. Areas such as window frames and cobwebs had no droppings to indicate bat presence.

The barn was assessed as **Negligible potential**: No habitat features likely to be used by roosting bats (currently).

5. Conclusions and Recommendations

A desk study concluded with 8 records of bat licence applications being submitted within 7km and 21 records of bat species located within 2 km of Widgeham barn, Laxfield road, Fressingfield, IP21 5PY. The nearest mitigation licence record to site was an EPS licence record (2014-3925-EPS-MIT) in 2014 that was 1.7km to the southeast of site for the destruction of a resting place. Including barbastelle, brown long-eared, common pipistrelle, soprano pipistrelle, and natterers bat.

The desk study and survey resulted in the site being deemed as **having negligible potential for bats** due to the lack of access and features. This was further supported by no signs of bats externally or internally. Habitats within the wider countryside had the potential to support roosting and foraging bats. The survey was conducted, in accordance with professional guidelines (Collins, 2016).

Development proposals include the conversion of a workshop into a holiday let/annex and will have a negligible impact on local bat populations.

Biodiversity Enhancements (post construction)

Enhancement features, such as bat boxes (such as Eco Kent bat boxes and bat tubes) could be incorporated into the final designs and therefore provide roosting and sheltering opportunities.

6. Validation

Table 2. Validity duration of the data.

Information Source	Date Undertaken	Valid Until	Comments
Bat PRA survey (for planning)	July 2023	July 2025 (2 years)	No further surveys will be required

7. References

Altringham, J.D. (2003) British Bats. Harper Collins Publishers, 77-85 Fulham Palace Road, Hammersmith, London, W6 8JB. ISBN 000 220147 X.

Bat Conservation Trust (2015) Amazing Bats: An introduction to the bats of Britain & Ireland. The Bat Conservation Trust, London.

Bat Conservation Trust (2018). Bats and artificial lighting in the UK Bats and the Built Environment series. Bat Conservation trust, London.

Bat Conservation Trust (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. Bat Conservation Trust, London.

Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Dietz, C. & Kiefer, A. (2016). Bats of Britain and Europe. Bloomsbury Publishing, UK.

Hooton, S. (2017). Bats in Suffolk distribution atlas 1983-2016.

Web references

http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk__final_version_version_3_may_09.pdf

http://www.magic.gov.uk.html

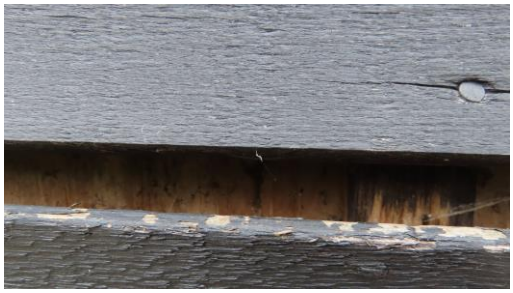
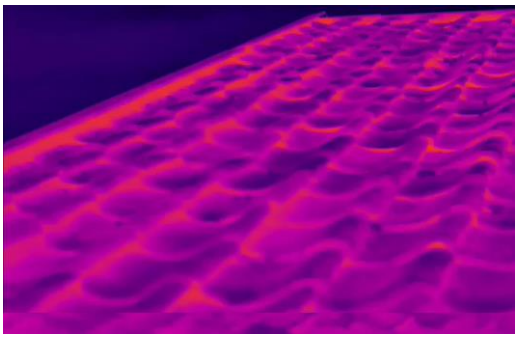
http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

http://www.suffolkbis.org.uk/biodiversity/speciesandhabitats/specieslist

http://www.suffolkwildlifetrust.org

8. Appendices

Appendix I: Table 3 target notes

Photos	Target Notes
 1	Target note 1 is of the lifted tiles on the roof that were inspected and found to have no signs of present or previous bat use.
 2	Target note 2 of lifted weather boarding on the external of the workshop showing the obs board behind and lack of wall cavities.
 3	Target note 3 is a still from the thermal imaging camera used on the survey to look for heat signatures of potential bats.
 4	Target note 4 is of the internal of room one showing the silver backed bubble insulation.

Appendix II: Site Photos

Table 4: Site photos

	
Southern elevation of the workshop	Western elevation with displaced weatherboards and floodlights.
	
Northern elevation of the workshop	Internal second room completely sealed

Appendix III: Figures

Site Map

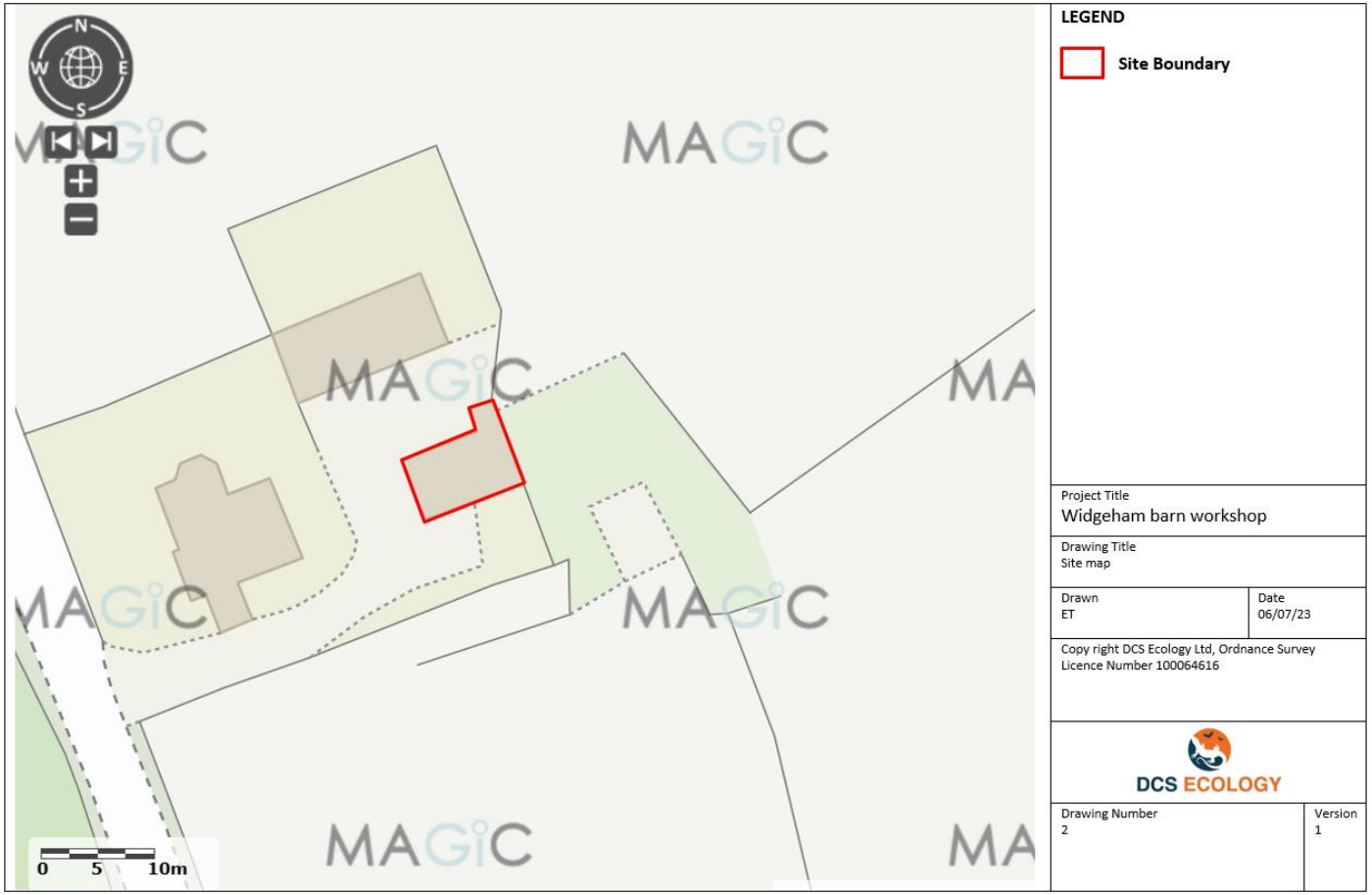


Figure 2: *Site Map (c) Crown Copyright under licence 100064616*

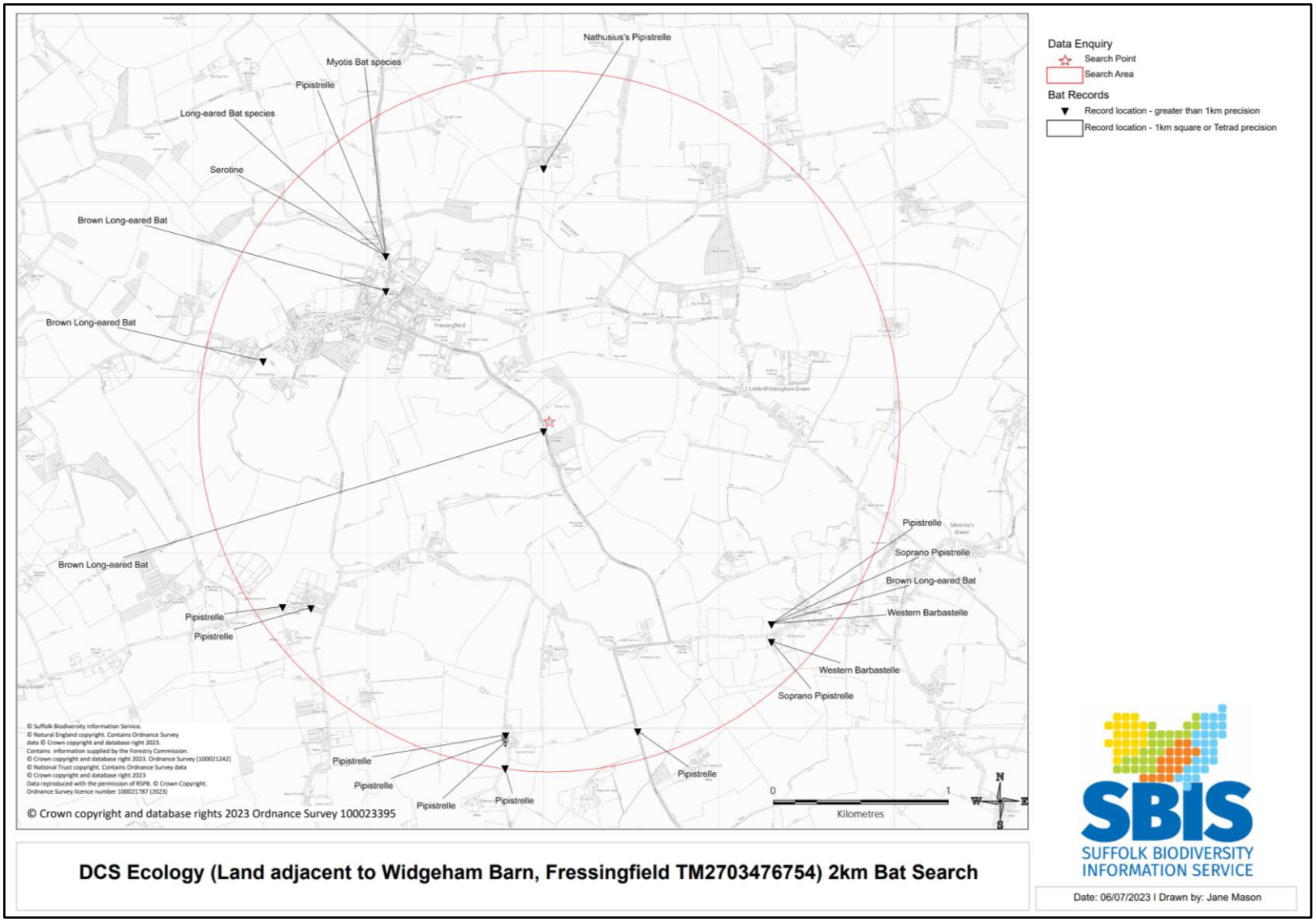


Figure 3: *Single species (Bat) records, within 2km of the Site.*

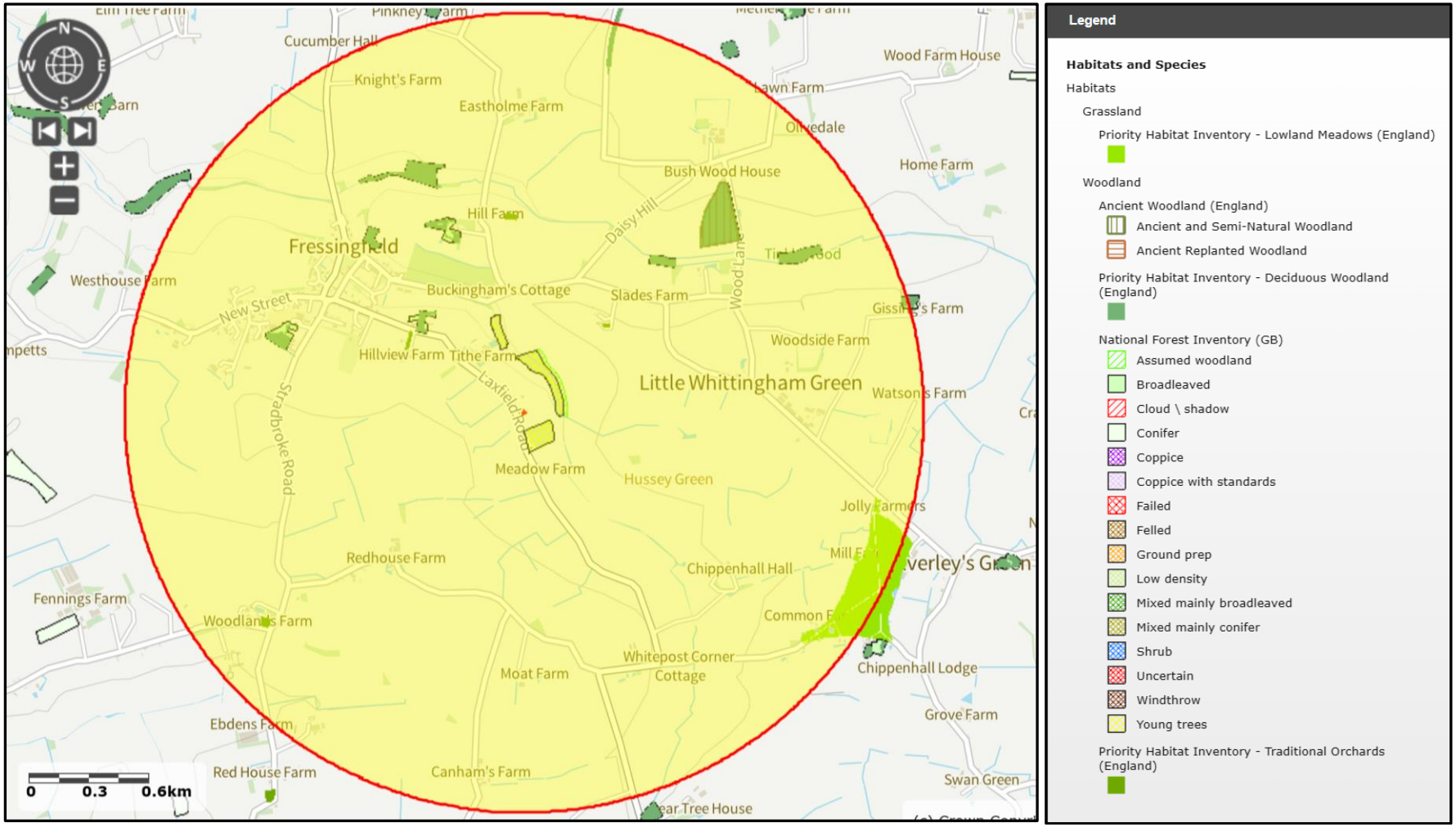


Figure 4: *protected and priority habitats within 2km of the Site*

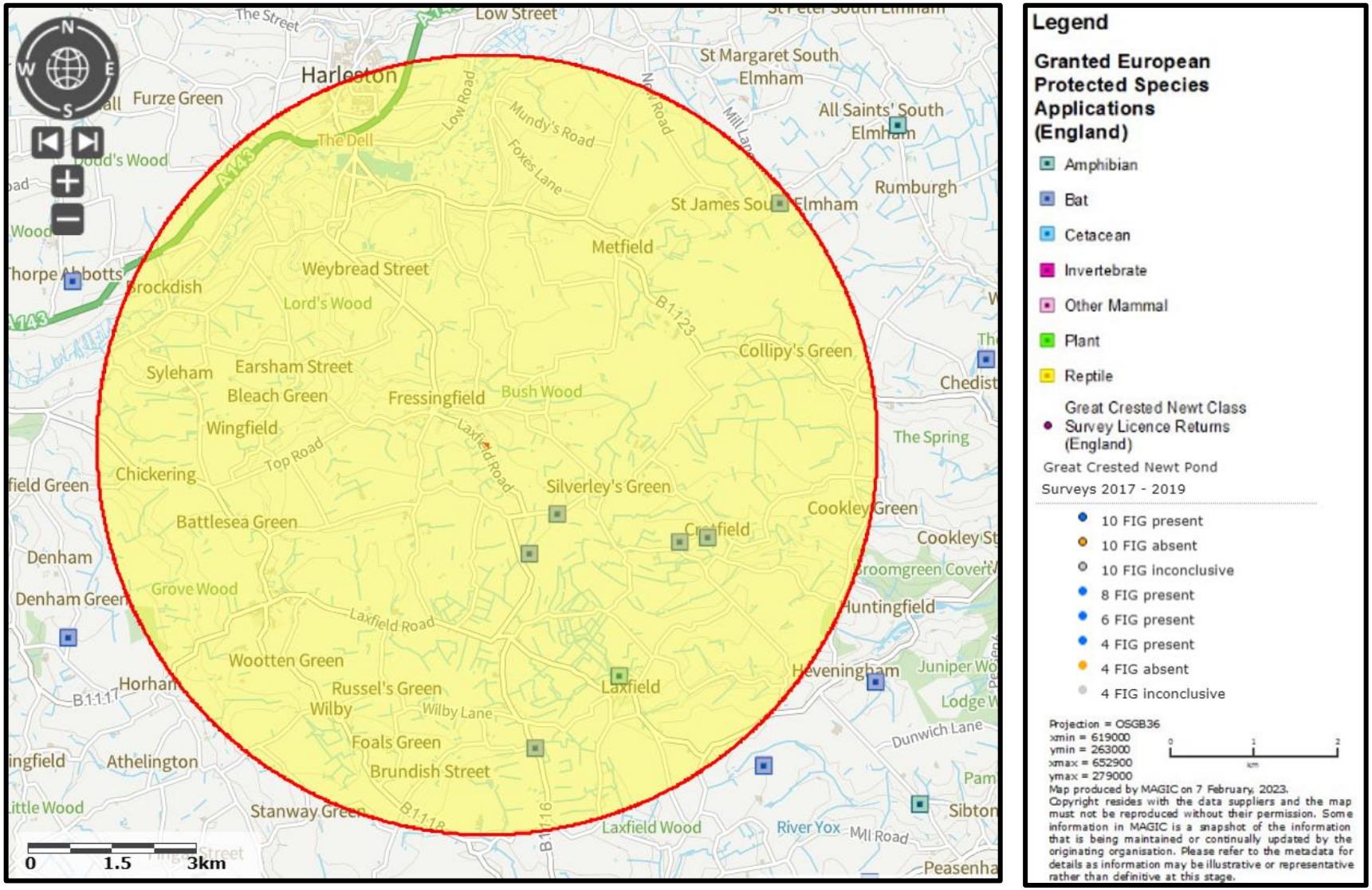


Figure 5: *Protected bat species recorded on MAGIC within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence 100064616*

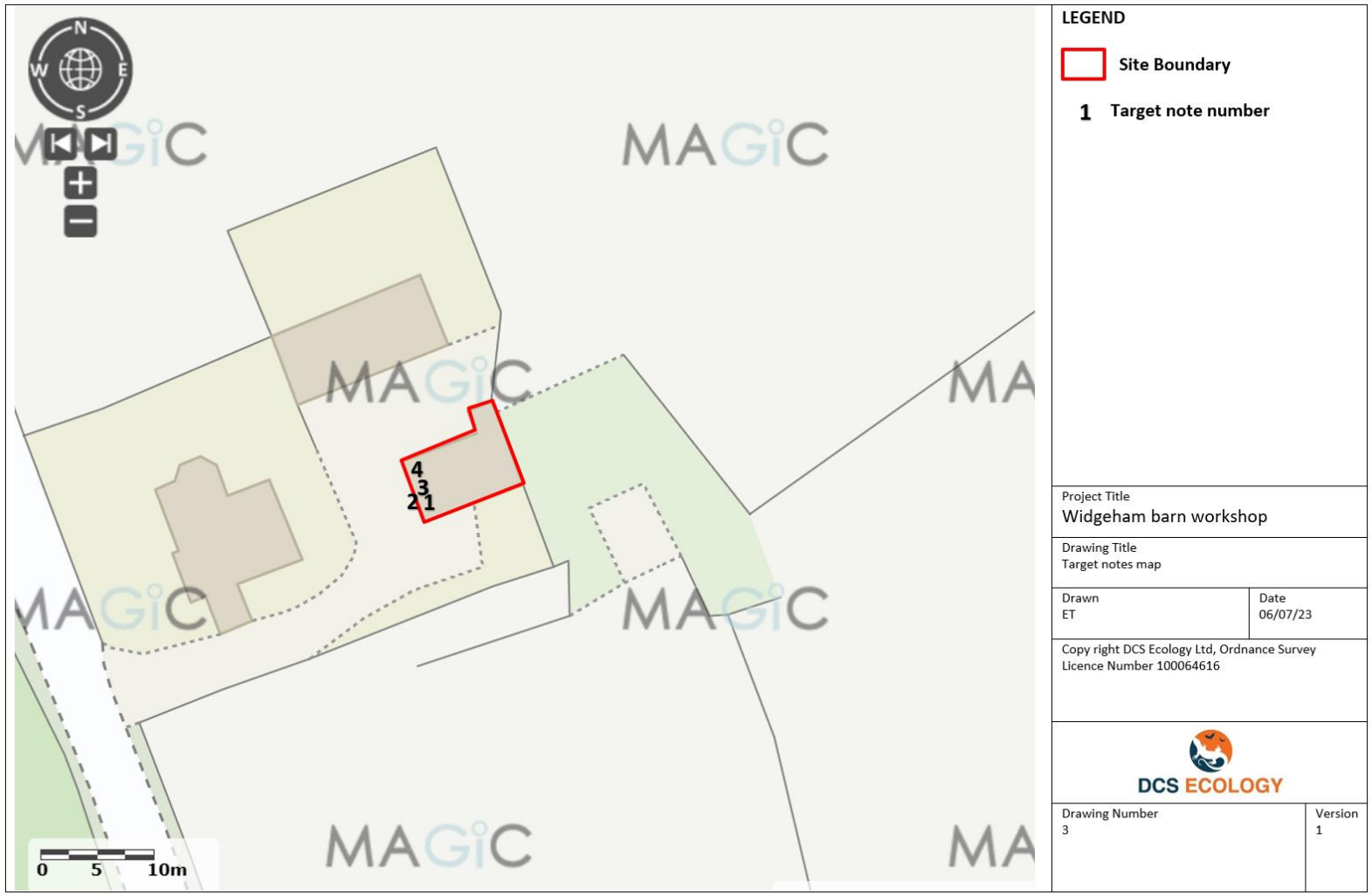


Figure 6: *Target notes map.*

Appendix IV: Desk Study

Table 5: Bat records within 2km of the Site from SBIS data records 06/07/23.

Species common name	*Latin name*	*Grid reference*	*Year*	*Notes*
Western Barbastelle	*Barbastella barbastellus*	TM283756	2012	Bat detector record
Western Barbastelle	*Barbastella barbastellus*	TM283755	2006	Single Barbastelle in sacking within a former threshing barn
Serotine	*Eptesicus serotinus*	TM261777	2014	The Bat Conservation Trust
Myotis Bat species	*Myotis spp*	TM261777	2014	The Bat Conservation Trust
Nathusius's Pipistrelle	*Pipistrellus nathusii*	TM270782	2011	bat detector
Pipistrelle	*Pipistrellus pipistrellus*	TM2567475691	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM261777	2014	The Bat Conservation Trust
Pipistrelle	*Pipistrellus pipistrellus*	TM2678174778	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM2678274924	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM2678374944	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM2678474966	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM2753774988	2015	
Pipistrelle	*Pipistrellus pipistrellus*	TM283756	2012	Roost
Pipistrelle	*Pipistrellus pipistrellus*	TM2551275698	2015	
Soprano Pipistrelle	*Pipistrellus pygmaeus*	TM283756	2012	Bat detector record
Soprano Pipistrelle	*Pipistrellus pygmaeus*	TM283755	2007	
Long-eared Bat species	*Plecotus*	TM261777	2014	The Bat Conservation Trust

Brown Long-eared Bat	*Plecotus auritus*	TM261775	2008	Breeding colony
Brown Long-eared Bat	*Plecotus auritus*	TM270767	2004	Roost
Brown Long-eared Bat	*Plecotus auritus*	TM283756	2012	Roost
Brown Long-eared Bat	*Plecotus auritus*	TM254771	2009	Breeding colony

Appendix V: Relevant Protected Species Legislation

International and national legislation, and policy context.

EC Habitats Directive

In 1992 the then European Community adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the Habitats Directive. The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring member states to introduce protection for these habitats and species of European importance. The mechanism for protection is through the designation of Special Areas of Conservation (SACs), both for habitats and for certain species listed within Annex II. There are several species listed within Annex II of the Habitats Directive that are present within the UK; these include four lower plant species, nine higher plant species, six species of molluscs, six species of arthropods, eight species of fish, two species of amphibian, and nine species of mammal.

The Bern Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) came into force in 1982. The principal aims of the Convention are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix 3. To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species.

Bonn Convention

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention or CMS) was adopted in Bonn, Germany in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix 1 of the Convention), concluding multilateral agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix 2 of the Convention), and by undertaking cooperative research activities.

Convention on Biological Diversity

The Convention on Biological Diversity (Biodiversity Convention or CBD) was adopted at the Earth Summit in Rio de Janeiro and entered into force in December 1993. It was the first treaty to provide a legal framework for biodiversity conservation. Contracting Parties are required to create and enforce national strategies and action plans to conserve, protect and enhance biological diversity.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. However, it does not extend to Northern Ireland, the Channel Islands, or the Isle of Man. This legislation is how the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Natural Habitats and Wild Fauna and Flora (92/43/FFC) are implemented in Great Britain.

Conservation of Habitats and Species Regulations 2010 (as amended)

In the UK the Council Directive 92/43/EEC has been transposed into national laws by means of the Conservation (Natural Habitats, & c.) Regulations 1994 (as amended), and the Regulations (Northern Ireland) 1995 (as amended). The Regulations came into force on 30 October 1994 and have been amended several times. Subsequently the Conservation of Habitats and Species Regulations 2010 was created which consolidates all the various amendments made to the 1994 Regulations in respect of England and Wales and is commonly known as the 'the Habitats Regulations'. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland. The Regulations contain five Parts and four Schedules and provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Table 6: Relevant Protected Species Legislation

Species	Legislation	Protection
Bats	▪ Conservation of Habitats and Species Regulations (2010) (as amended) ▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended) ▪ Wild Mammals Act (1996)	It is an offence to: ▪ Intentionally kill, injure or take any bat ▪ Intentionally or recklessly disturb a bat ▪ Intentionally or recklessly damage, destroy or obstruct access to a bat roost

Appendix VI: Abbreviations

Table 7: List of abbreviations	
BAP	Biodiversity Action Plan
BCT	Bat Conservation Trust
BoCC	Birds of Conservation Concern
CHSR	Conservation of Habitats and Species Regulations 2017
CIEEM	Chartered Institute of Ecology and Environmental Management
CROW	The Countryside Rights of Way Act 2000
CWS	County Wildlife Site
ECoW	Ecological clerk of works
eDNA	Environmental DNA
EIA	Ecological Impact Assessment
EPS	European Protected Species
GCN	Great crested newt
HPI	Habitat of Principal Importance
HSI	Habitat Suitability Index
HRA	Habitat Regulations Assessment
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LPAs	Local Planning Authorities
MAGIC	Multi-Agency Geographic Information for the Countryside
NERC	Natural Environment and Rural Committees Act
NBIS	Norfolk Biodiversity Information Service
NE	Natural England
NERC	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	The National Planning Policy Framework
PEA	Preliminary Ecological Appraisal
PRA	Preliminary Roost Assessment
PRF	Potential (bat) Roosting Feature
RAMs	Reasonable Avoidance Measures
SAC	Special Area of Conservation
SBAP	Suffolk Biodiversity Action Plan
SBIS	Suffolk Biodiversity Information Service
SPA	Special Protection Area
SSSI	Special Site of Scientific Interest
TAF	Temporary amphibian fencing
WCA	Wildlife and Countryside Act 1981 (as amended)
UKBAP	United Kingdom's Biodiversity Action Plan

Table 8: Abbreviations of bat species		
Abbreviations	**Common name**	**Latin name**
BARB	Barbastelle (bat)	*Barbastella barbastellus*
BLE	Brown long-eared (bat)	*Plecotus auritus*
CPIP	Common Pipistrelle bat	*Pipistrellus pipistrellus*
DAUB	Daubenton's bat	*Myotis daubentoniid*
LEI	Lesser noctule / Leisier's bat	*Nyctalus leiseri*
NATT	Natterer's bat	*Myotuis nattereri*
NOC	Common noctule	*Nyctalus noctule*
NPIP	Nathusius's pipistrelle	*Pipistrellus nathusii*
SERO	Serotine (bat)	*Eptesicus serotinus*
SPIP	Soprano pipistrelle (bat)	*Pipistrellus pygmaeus*

Appendix VI: Enhancement and mitigation examples designs.

Table 9: Compensation and enhancement Examples.

	
Photo 1: Eco-Kent bat box	Photo 2: Woodstone multichambered bat box
	
Photo 3: Bat rocket box.	