

# **Preliminary Ecological Appraisal (PEA)**

of

**Willow Cottage,  
Pitmans Corner,  
Wetheringsett,  
IP14 5PX**

*For*

*Richard and Lesley Hall*



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The authors and surveyors used to undertake the work are appropriately qualified for the tasks undertaken. The work undertaken while preparing this report has been carried out with due care, skill, and diligence.

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# **1. Executive Summary**

## **1.1 Overview**

DCS Ecology Ltd was commissioned by Mr and Mrs Hall, to carry out a Preliminary Ecological Appraisal (PEA), for an application for the development of an extension to the western side of a residential dwelling (central grid reference TM14253 66487, hereby referred to as the Site).

The site is 0.13ha (1300 square metres) and consists of a residential dwelling surrounded by amenity grassland and a wildlife friendly garden. Scrub and fencing borders the perimeter of the garden to the northeast. The site is situated 1.5km to the east of the village of Wetheringsett (see Site description).

The preliminary ecological appraisal was carried out on the 12<sup>th</sup> of October 2023 by Duncan Sweeting, Elizabeth Thurston, and Oli Monks of DCS Ecology Ltd, to assess the ecological value of the Site.

## **1.2 Results**

The desk study found zero country wildlife sites within 2km of the site.

The habitats recorded onsite included hardstanding in the form of pea shingle, brick patio and bare ground, as well as amenity grassland. Habitats within the construction area was a small section of brick patio to the rear of the residential property. Adjacent habitats included arable farmland, amenity grassland, ponds, areas of scrubland, and mature trees.

The habitats listed above, and features recorded within the site provide potential habitat for breeding birds, bats, and small mammals. The site was within 250m of suitable habitat for great crested newts and sub-optimal suitable habitat for reptiles such as grass snakes.

## **2. Background to Commission**

### **2.1 Overview**

DCS Ecology Ltd was commissioned by Richard and Lesley Hall to carry out a Preliminary Ecological Appraisal (PEA), for a proposed development at Willow Cottage, Pitmans Corner, Wetheringsett, IP14 5PX (central grid reference TM14253 66487).

### **2.2 Aims of Study**

This report provides an ecological appraisal and roost assessment of the Site following the completion of a desk study and site visit. The aim of this study was to:

- Provide a description of existing habitat types;
- To determine the existence and location of any ecologically valuable areas;
- To identify the potential (or actual) presence of protected and/or notable species;
- To provide the legislative and/or policy protection afforded to any habitats present, or any species assessed as likely to be associated with the site; and
- To recommend any further ecological surveys considered necessary to inform mitigation requirements for the application within the Site.

### **2.3 Site Description**

The site is 0.13ha (1300 square metres) and consists of a residential dwelling surrounded by amenity grassland and a wildlife friendly garden. Scrub and fencing borders the perimeter of the garden to the northeast. The site is situated 1.5km to the east of the village of Wetheringsett.

Within the site boundaries habitats included amenity grassland to the northeast and west of the residence, with various pots and raised beds containing native ornamental plants. Access to and parking for the residence is in the northern section of the site and consists of a mix of pea shingle and bare ground, as well as a wooden outbuilding for storage.

Directly adjacent to site there are wildlife friendly features implemented and managed by the client. To the north, a greenhouse and raised beds for gardening, as well as a pond that is separated from the main residence by a small section of dense scrub, young trees (See species list in appendix III), and a wet ditch. Bird boxes and feeders are in various locations on and adjacent to the site, to increase opportunities for nesting and foraging birds. Adjacent to the east border of the pond there is also a 'bug hotel' that was constructed, which provides shelter and hibernating opportunities to invertebrates.

Beyond the site, the wider countryside consisted predominately of arable fields and other residences. To the north, east and west of site there are arable fields lined by sparse hedgerows with the occasional trees that offered commuting networks for local bat populations. Ten ponds exist within 250m of site, and one HSI was conducted on the pond closest to the residence on site, descriptions of the ponds can be found in section 5.

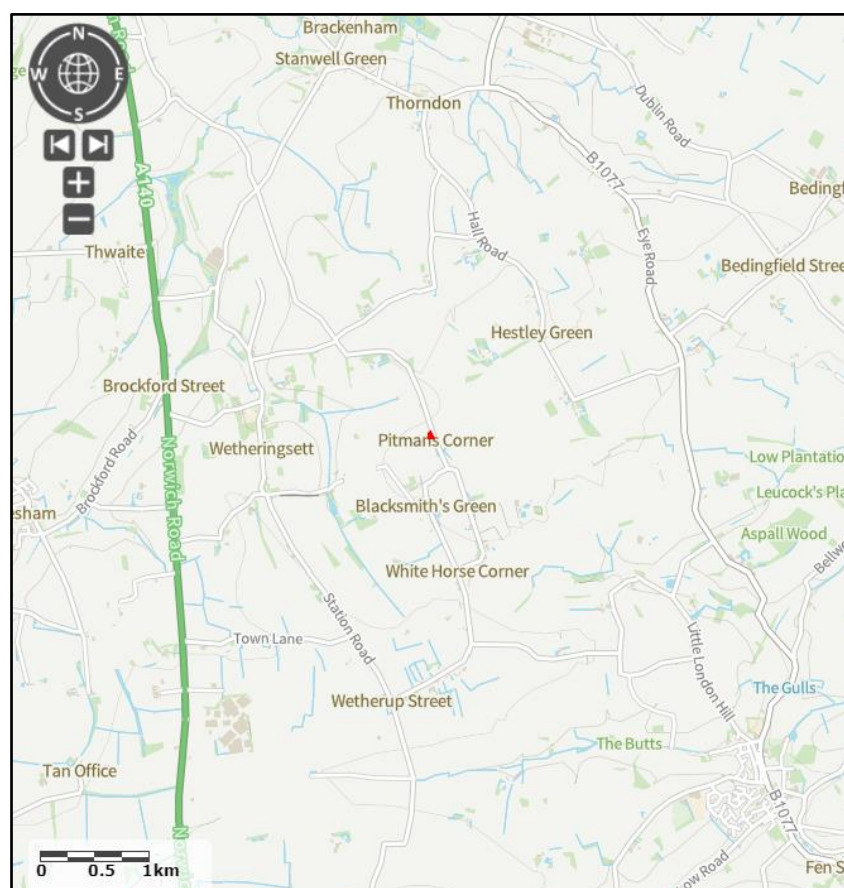


Figure 1. Site location (outlined in red). (1:25000) Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

### 2.3 Relevant Legislation

Protected species, as referred to within this report, are taken to be those protected under European Legislation (Conservation of Habitats and Species Regulations 2010, as amended) and UK legislation (Wildlife and Countryside Act 1981; Protection of Badgers Act 1992); and those of principle importance in England as listed in Section 41 of the NERC Act (2006).

The National Planning Policy Framework (NPPF) September 2023 places responsibility on Local Planning Authorities (LPAs) to aim to conserve and enhance biodiversity in and around developments. Section 40 of the 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.

Appendix VI details legislation which protects species and groups relevant to the site (bats, reptiles, birds, and great crested newts).

## **3. Methods**

### **3.1 *Desk Study***

Data obtained from the Suffolk (SBIS) was used to conduct a cross-county standard data search<sup>1</sup>, for any information regarding statutory and non-statutory sites, ancient-veteran-notable trees, and records of protected and priority species within a 2km radius of the Site. The data was received on the 16<sup>th</sup> of October 2023.

A 10km radius search for European Designated Sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar's was undertaken using MAGIC (<http://www.natureonthemap.naturalengland.org.uk/>). Past and current EPS licences and GCN pond survey results within a 7km radius were searched for using MAGIC on 26<sup>th</sup> of October 2023.

### **3.2 *Field Survey***

A Preliminary Ecological Appraisal was carried out by Duncan Sweeting LCG (Natural England Great Crested Newt Class Survey Licence WML-CL08; Natural England Bat Class Survey Licence WML-CL18, Natural England Barn Owl Survey Licence WML-CLS29), Oli Monks BSc (Hons) and Elizabeth Thurston (Natural England Barn Owl Survey Licence WML-CLS29) on the 12<sup>th</sup> of October 2023 in accordance with standard best practice methodology for Phase 1 Habitat Surveys set out by the JNCC (JNCC 2010). Weather conditions during the survey was cloudy (100% cloud cover), gentle breeze (Beaufort scale 3), a temperature of 13°C, with medium visibility due to light rain. The Site was traversed slowly by the surveyor, mapping habitats, and making notes on dominant flora and fauna within the site. The survey was extended to identify the presence of invasive species and included an assessment of the potential for the habitats in and around the site to support protected species.

### **3.3 *Survey Limitations***

No survey limitations were noted.

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<sup>1</sup> *The standard data search identifies designated sites including:- Ramsar; Special Areas of Conservation; Special Protection Areas; Sites of Special Scientific Interest; National Nature Reserves; Local Nature Reserves; County Wildlife Sites; Regionally Important Geological Sites; Ancient Woodland; and protected and priority species identified by the:- Wildlife & Countryside Act 1981 Schedules 1, 5 & 8; Conservation of Habitats & Species Regulations 2010 Schedules 2 & 5; Protection of Badgers Act 1992; Bonn Convention Appendix 1 & 2; Bern Convention Annex 1 & 2; Birds Directive Annex 1; Habitats Directive Annex 2, 4 & 5; NERC Act 2006 Section 41; UKBAP (both local and national); IUCN Red List species; Red & Amber Bird List; Nationally Scarce / Rare; Locally Scarce / Rare; and Veteran trees.*

## 4. Results

The following section details the results of the desk study and field survey. Consideration has been given to species likely to be found in the habitats recorded on site and potential impacts to designated sites within the local area. Several protected species have been ‘scoped out’ of the report, as the Site was not considered suitable to support them. Species scoped out were water voles, otters, and dormice.

Maps illustrating the following data are included in Appendix IV.

### 4.1 Data Search

The data search showed records of protected species in the area, which could potentially occur on the Site. These are detailed within the relevant sections below.

### 4.2 Designated Sites Data

The data search produced the following results:

In regard to Local/National European site, there weren’t any County Wildlife Site Citations within 2km of the Site. Within 10km of site there is one local nature reserve, and five SSSI. No SAC, AONB, NNR, RS, BR or SPAs were present.

These are:

#### Local Nature Reserves:

- THE PENNINGES, EYE – The Pennings is a 2.7ha reserve owned and managed by Mid Suffolk District Council. And is managed as a hay meadow, with species such as kingfishers (*Alcedo atthis*) and water voles (*Arvicola amphibius*) using the habitat.

#### Sites of Special Scientific Interest:

- MICKFIELD MEADOW – This site consists of a small meadow managed on traditional lines which supports a species-rich unimproved neutral grassland flora of a type formerly widespread in Suffolk before the advent of modern farming methods. There is a good variety of grasses and herbs, including Fritillaries *Fritillaria meleagris*. The grass sward is species-rich with Meadow Foxtail *Alopecurus pratensis*, Cocksfoot *Dactylis glomerata*, False Oat-Grass *Arrhenatherum elatius*, Timothy *Phleum pratense* and Yorkshire Fog *Holcus lanatus* as the dominant grasses.
- GIPPING GREAT WOOD – Gipping Great Wood is an ancient coppice-with-standards wood on a plateau site situated close to the headwaters of the River Gipping. The wood is a good example of the Northeast Suffolk type of hornbeam wood with several giant coppice stools. A complex mosaic of stand types is present including extensive areas of acid pedunculate oak-hazel-ash woodland and pedunculate oak-hornbeam woodland with patches of wet ash-maple woodland and invasive elm. The round flora is characteristic of an ancient woodland site on slightly calcareous boulder clay and includes two uncommon species.
- LINGWOOD MEADOWS – Lingwood Meadows consists of two floristically rich old meadows and is one of the few remaining examples of unimproved grassland in Suffolk. The number of such traditionally managed, herb rich meadows has been greatly reduced



in recent decades and remain under threat from changes in agricultural practice. It supports a high number of grasses and herbs.

- MAJOR FARM – Major Farm Meadow is damp and species-rich, one of the few remaining unimproved hay meadows in Suffolk. The meadow is shallow sloping, on boulder clay of low soil fertility, and characterised by an abundance of molehills. The sward supports a wide variety of grasses and herbs of which Sweet Vernal-grass *Anthoxanthum odoratum*, Common sorrel *Rumex acetosa*, Meadow Buttercup *Ranunculus acris* and Ribwort *Plantago lanceolata* are dominant.
- FOX FRITILLARY MEADOW – This site consists of a small unimproved species-rich meadow situated in a valley bottom on heavy alluvial soils. The meadow supports the largest and best-known population of Snakes-head Fritillary *Fritillaria meleagris* in East Anglia, a plant which is rare, and which has a limited national distribution. The grass sward contains a mixture of grasses including Meadow Foxtail *Alopecurus pratensis*, Red Fescue *Festuca rubra*, Creeping Bent *Agrostis stolonifera*, Yorkshire Fog *Holcus lanatus*, Crested Dog's-Tail *Cynosurus cristatus* and Rough-stalked Meadow-Grass *Poa trivialis* with a good variety of herbs typical of alluvial meadows.

### 4.3 MAGIC Map Data

<b>Table 1: MAGIC map system EPS licence applications within a 7km radius (see map in Appendix IV)</b>					
<b>Case reference of granted application</b>	<b>Species on the licence</b>	<b>Damage/ destruction of breeding site</b>	<b>Damage/ destruction of a resting place</b>	<b>Grid Ref</b>	<b>Nearest Location</b>
2016-24657-EPS-MIT	GCN	N	N	TM17086541	Aspall
2016-24657-EPS-MIT-1	GCN	N	Y	TM17086541	Aspall
2016-24657-EPS-MIT-2	GCN	N	Y	TM17086541	Aspall
2016-24657-EPS-MIT-3	GCN	N	Y	TM17086541	Aspall
2019-39654-EPS-MIT	CPIP, SPIP	N	Y	TM10006171	Middlewood Green
2019-39772-EPS-MIT	GCN	N	Y	TM17206519	Aspall
EPSM2013-5975	GCN	N	Y	TM17106536	Aspall
EPSM2011-2999	CPIP, SPIP, BLE	N	Y	TM14616810	Hestley Green

The MAGIC data search returned 8 records of past and current EPS licences 6 were for great crested newts and 2 were for bats within a 7km radius. These include common pipistrelle, soprano pipistrelle, and brown long-eared. The nearest record to site was a granted EPS licence (EPSM2011-2999) for the destruction of a common pipistrelle, soprano pipistrelle, and brown long-eared resting place. It was 1.6km to the north of site. There were 12 GCN class licence returns at 5 locations and 11 GCN pond surveys between 2017 and 2019 with 1 out of the 11 having GCN present, and 1 having an inconclusive result.

### SBIS (2 km radius)

**Table 2.** Ancient, notable, and veteran trees within a 2 km radius of the Site.

Species	Distance from site (km)
Pedunculate Oak	1.62
Pedunculate Oak	1.8
Pedunculate Oak	1.8
Pedunculate Oak	1.85
Pedunculate Oak	1.92
Pedunculate Oak	1.05
Pedunculate Oak	1.17
Pedunculate Oak	1.55
Pedunculate Oak	1.6
Pedunculate Oak	1.52
Pedunculate Oak	1.57
Pedunculate Oak	1.59
Pedunculate Oak	1.64
Pedunculate Oak	1.08
Pedunculate Oak	1.78
Cedar	1.82

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. All 16 trees were over 1km away from site.

#### 4.4 **Field Survey Results**

The site consisted of amenity grassland, bare ground/pea shingle driveway, and scrub located approximately 1.5km to the east of Wetheringsett, Suffolk.

The area contained scrub with species such as hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*) and common nettle (*Urtica dioica*). Adjacent habitats were suspected to support protected species. More details and target notes can be found in appendix I and II. The surrounding area was predominately arable fields with scattered residences to the south.

Plant species within the site boundary were found throughout the site, in placed pots, raised beds and bordering the amenity grassland to the front and rear of the residence (please see Appendix III for full plant list of species). A map showing the habitat types on Site can be seen in Appendix IV.

## 5. Protected and Priority Species Within the Site

### **Flora**

No rare species of plants were highlighted in the desk study, however there was an orchid species highlighted, the Pyramidal Orchid (*Anacamptis pyramidalis*).

No uncommon, rare, or protected plant species were recorded during the survey.

### **Badgers**

The site was visually searched for evidence of the presence of badgers (*Meles meles*), including setts, footprints, latrines, and snuffle marks.

There were no records of badgers within the 2km data search from SBIS. Habitats within the site were sub optimal for foraging badgers and no signs were found to suggest badgers use the site. Adjacent habitats were suitable for foraging badgers, but the size and impact of the proposal makes it unlikely the proposed development would have any impact on local badger populations. The wider countryside consisting of fields used for arable crops could potentially be used by foraging badgers, but it is unlikely that badgers will access site.

### **Bats**

The site was checked for signs of bats which included, urine stains, droppings, cracks and crevices with smooth rubbing or stain marks, feeding signs or living or dead animals. Any potential roost features were noted and are discussed below.

The site was clear of mature trees apart from trees on the site boundary, bordering the road to the east of the site. Trees that had potential would need a minimum of a climb and inspect survey of the features if removal was required for the development. However, as no trees are to be impacted on by the development, this is not necessary.

Trees adjacent to site and ten ponds within 250m of site offered good foraging opportunities for nearby bats however development plans do not include changes or impacts to any of these habitats.

The SBIS data search returned thirty-two records within 2km of the Site, comprising at least 7 of the 13 bat species known to Suffolk. These included noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*),

whiskered bat (*Myotis mystacinus*), lesser noctule (*Nyctalus leisleri*) and natterer's bat (*Myotis nattereri*) species.

## Fungi

No rare fungi were identified with the 2km data search from SBIS, and no rare fungi were identified while surveying the site.

## Great Crested Newts

Some habitat on the site was suitable to support amphibians, including great crested newts (GCN) (*Triturus cristatus*), during their terrestrial phase. The area of scrub had moderate to low potential to support GCN in their terrestrial phase, however, the section of scrub is small and is not going to be impacted by works. The site is surrounded by arable fields, so connectivity is poor however there are 10 ponds within 250m and therefore there is potential for GCN to access the pond directly adjacent to site. This pond is within close proximity to site however the proposed construction area does not contain suitable habitat as it is largely hardstanding including a brick patio and pea shingle drive or short amenity grassland.

There were ten ponds present within a 250m radius of site:

- Pond 1- Located approx. 220m to the north of site and 138 m<sup>2</sup>. No access was available for the survey.
- Pond 2- Located approx. 120m to the north of site and 120 m<sup>2</sup>. No access was available for the survey.
- Pond 3- Located approx. 8m to the north of site and 65 m<sup>2</sup>. This pond was directly adjacent to the site and was located on land owned by the client. A HSI was conducted, the results of which can be found below.
- Pond 4 – Located approx. 80m to the southwest of site and 200 m<sup>2</sup>. No access was available for the survey.
- Pond 5 – Located approx. 55m to the south of site and 300 m<sup>2</sup>. No access was available for the survey.
- Pond 6 – Located approx. 85m to the southeast of site and 130 m<sup>2</sup>. No access was available for the survey.
- Pond 7 – Located approx. 120m to the southeast of site and 800 m<sup>2</sup>. No access was available for the survey.
- Pond 8 – Located approx. 215m to the south of site and 140 m<sup>2</sup>. No access was available for the survey.
- Pond 9 – Located approx. 210m to the south of site and 640 m<sup>2</sup>. No access was available for the survey. This pond is more likely a stream or moving body of water.
- Pond 10 – Located approx. 170m to the southeast of site and 1.04 km<sup>2</sup>. No access was available for the survey. This pond is more likely a stream or moving body of water.

The only pond that was available for a habitat suitability assessment was pond number 3, which was directly adjacent to the northern boundary of the site. The HSI score for this pond was 0.66, which results in a HSI categorisation of 'Average'.

There weren't any records of GCN returned in the SBIS data search. Although much of the wider landscape was arable, and semi-improved grassland. The site provided potential habitat for GCN during terrestrial phases however this was not within the construction area and no suitable habitats will be impacted by works.

### ***Hedgehogs***

The Site was considered suitable for hedgehogs, as it had areas for adequate foraging and hibernation opportunities, such as shrubs and woodpiles. None of which will be impacted by works. Adjacent habitats including hedgerows around arable fields and shrubs which also provided some potential to support foraging and nesting opportunities. The data search returned 44 records of hedgehog within 2km of the Site. Whilst surveying the site, a hedgehog was identified and photographed. A picture can be found in Appendix I.

### ***Reptiles***

The habitat onsite was sub optimal for foraging reptiles. However, ponds and grassland within the adjacent areas had the potential for foraging and basking reptiles.

There was no evidence of reptiles on the site, no droppings, sloughs, or reptiles.

There were three records of grass snakes recorded within 2km SBIS data search. With the closest record being approximately 440m to the south-east.

### ***Birds***

There was an area of scrub to the north of site and mature trees bordering the site that could contain nesting birds (no active or inactive nests were noted). Adjacent to site, shrubs and trees were also suitable for nesting and roosting birds. (For a list of species seen during the survey see appendix III).

For a list of bird species of conservation concern returned in the SBIS data search, please see Appendix V

### ***Invertebrates***

Vegetation to support invertebrates was widespread across and adjacent to site and could support small assemblages of common invertebrates, as well as a possibility of rarer invertebrates. The 'invertebrate hotel' located to the north of site shows that. No rare invertebrates were found onsite, and further invertebrate surveys were not considered necessary.

No rare or protected invertebrate species were identified by the 2km SBIS data search.

### ***Other Protected Species***

In regard to other protected species, there was one record of water vole, and three records of Brown Hare, returned within the data search. Habitats onsite are negligible or sub-optimal for these species, however the site had open access to directly adjacent fields, ponds, and trees that may offer habitat for brown hares.

## 6. Potential Impacts and Obligatory Recommendations

### 6.1 *Statutory Designated Areas*

The impact of proposed activities on Sites of Special Scientific Interest (SSSIs) are assessed using Impact Risk Zones (IRZs), which establish buffer zones around each site which reflect the particular sensitivities of designated sites and indicate the types of development proposal which could potentially have adverse impacts. If the developed is assessed as having a “likely significant effect” any European statutory designated area, then the project will require a HRA (Habitat Risk Assessment) to be undertaken as stated in The Conservation of Habitats and Species Regulations 2010 (as amended).

The Site falls within the Impact Risk Zone (IRZ) of multiple SSSI, however as the proposal is a small-scale development and it will not include the creation of over 50 building units, the risk of impact to designated sites is negligible and therefore is unlikely to require a HRA or other pre-development consultation with Natural England regarding likely impacts on designated areas.

### 6.2 *Flora and Habitats*

The proposed development includes the development of an extension to the western side of a residential building. Which won't result in any loss of habitat or vegetation, as the extension is proposed to be constructed onto a brick patio, with very low ecological value, to the rear of the building. Potted ornamental plants can be found on the patio; however, these can be moved and therefore won't impact the availability of foraging opportunities for invertebrates and birds (a list of plant species recorded onsite can be found in Appendix III).

The majority of the species highlighted within the data search were six figure grid references. The Site does not contain biodiversity priority habitats and was unsuitable for supporting these rare species.

No trees are to be felled for the construction of the extension, and therefore a felling licence is not required.

**Further botanical survey is not considered necessary; and no trees within proximity of the Site are to be felled, and therefore do not need to be protected from harm or licenced following guidance set out in BS5837 (2012).**

### 6.3 *Protected Species*

#### *Badgers*

Habitats on site weren't considered suitable for foraging badgers. However, adjacent habitat was considered suitable for badger foraging; although, no badger signs were observed during this survey. The data search didn't show any records of badgers within 2km of the site.

**No further survey is necessary; however, as adjacent, and on-site habitats provide suitable foraging habitat for smaller mammals, and a hedgehog was identified on site and recorded in the local area, construction works should have implemented several precautionary measures. Including the safe storage of materials used for construction, that may harm animals, and the implementation of escape ramps in any excavations left overnight.**

## **Bats**

Structures onsite assessed for roost suitability included the main residential building, as well as the utility building extension that is proposed for demolition. The extension proposed to be demolished is timber clad and roofed with pantiles, a few of which were slightly raised. The conservatory section of this extension had plastic sheets on the roof to prevent rainwater leaking into the building. No signs of bats were identified, and the extension itself had low to negligible potential for roosting bats. **Therefore, no further bat surveys are recommended.**

The Site had small areas of suitable foraging habitats for bats in the form of scrub and a pond to the north of the site. As well as a border of mature trees along the eastern edge of the wildlife friendly garden. But didn't include habitats such as deciduous woodland or lowland wetlands.

Habitats adjacent to the site, including treelines, ponds, and hedgerows did offer foraging and commuting opportunities for bats. As these habitats were near site, and there are nearby records of seven different species of bats, any lighting put in place for the duration of construction should be sensitive lighting and is recommended throughout the development. Following guidance provided by the Bat Conservation Trust (Bats and Lighting in the UK, 2023), to ensure foraging and commuting bats using adjacent habitats are not negatively impacted.

## **Birds**

A number of species with the potential to nest within, or near to, the Site boundary were highlighted within the desk study (see Appendices III and V). These included BoCC red listed and section 41 species.

No bird nests were seen within the site, however scrubs and mature trees provided nesting opportunities. The site had foraging opportunities for birds due to the scrub and pond to the north and had suitable foraging opportunities in adjacent habitats.

**No further nesting bird surveys need to take place, as the building proposed for destruction is small, and the potential for nesting birds is minimal.**

## **Great Crested Newts**

There were no SBIS records of GCN within 2km. There were 8 EPS licence records, there were 12 GCN class licence returns at 5 locations and 11 GCN pond surveys between 2017 and 2019 with 1 out of the 11 had GCN present within 7km. The nearest record to site was a pond survey return between 2017-2019 that didn't have any GCN present. There are no close records of GCN, and the distance to the adjacent ponds and obstacles in place may prevent the movement of GCN to the pond directly adjacent to the site. Although parts of the site and adjacent areas were optimal for GCN, **the size of the proposed development and lack of ecologically important habitat being impacted by the development means that no further survey is deemed necessary.**

## **Hedgehogs**

**Further surveys are not considered necessary**, however, as there are nearby records of this species, and areas of habitats on site that were suitable for foraging and hibernating hedgehogs, any potential nesting habitat (discarded building materials etc.) should be removed outside the hibernation period (which is November to March) or under supervision of an ecologist. In addition, the construction should follow recommendations set out for badgers, to minimise the risk of harm to foraging hedgehogs.

Any fencing that may be added should allow the movement of hedgehogs throughout the Site post development.

### ***Reptiles***

The project will not include the loss of small areas of suitable reptile habitat – sheltering and hibernation opportunities. It was considered unlikely that reptiles would use these habitats onsite for sheltering or hibernation, **and so no further survey is required. However, as reptiles could potentially be using adjacent habitats, it is recommended that any debris or building material removal is undertaken with an ecologist in attendance – to safely move any animals that may be using these habitats.**

### ***Invertebrates***

The Site contained a large amount of habitat for assemblages of common invertebrates and was also considered suitable for supporting rare/protected invertebrate species. However, as the proposed development won't impact on any vital habitat for these possible protected invertebrates, **further invertebrate surveys are not considered necessary.**

### ***Other Protected Species***

No further survey is required, as the habitat types and overall size of each habitat would be unlikely to significantly impacted any protected species.



## 7. Enhancement recommendations

The Natural Environment and Rural Communities Act 2006 (NERC), Section 40, established that all public bodies have a duty to conserve, restore, or otherwise enhance a population of a particular species or habitat:

Section 40 (A1)<sup>2</sup>

- “For the purposes of this section “the general biodiversity objective” is the conservation and enhancement of biodiversity in England through the exercise of functions in relation to England.”

Section 40 (1)

- “A public authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective.”

Section 40 (3)

- “The action which may be taken by the authority to further the general biodiversity objective includes, in particular, action taken for the purpose of—  
  
(a) conserving, restoring or otherwise enhancing a population of a particular species, and  
  
(b) conserving, restoring or otherwise enhancing a particular type of habitat.”

Therefore, enhancement opportunities are encouraged in order to change the overall net biodiversity impact of the development from minor-adverse neutral to neutral / minor positive.

### **Bats**

A bat box, such as Eco Kent bat boxes and Woodstone general purpose bat boxes (or similar) would increase roosting opportunities for bats within the Site. Exact models and locations should be determined by a suitably experienced ecologist.

### **Birds**

The site already has several bird boxes located around the property and the surrounding garden. However, further bird boxes such as Robin FSC Nest Box or WoodStone Seville Box erected on boundary trees in appropriate locations would provide additional nesting opportunities for local bird populations.

Precise locations of bird boxes should be decided by a suitably experienced ecologist at the time of erection to ensure an optimal situation and reduce the effect of changing environmental conditions at the Site when work. Although, as the site already contains multiple bird boxes, other enhancements involving other species may be preferred.

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<sup>2</sup> This includes recent amendments to the Act under the Environment Act 2021, which extended the definition of general biodiversity objective to include biodiversity enhancement as opposed to solely biodiversity conservation.

### ***Hedgehogs and other small mammals***

A hedgehog was identified whilst surveying on site, and habitat was found to support hedgehogs as well as other small mammal species, as abundant foraging and hibernation opportunities were present. The development will have a negligible impact on these important habitats, and to enhance foraging and hibernation opportunities for hedgehogs and small mammals, **hibernation boxes are recommended** in locations decided by a suitably experienced ecologist to ensure maximum effectiveness.

- Any debris and materials arising from the proposed construction should be stored in skips and/or on pallets to prevent creating refuge sites.
- Clearance of any debris or waste should be done sensitively with consideration to disturbance of hedgehogs.
- Vegetation above 300mm above ground level should not be cleared until temperatures are above 6°C for at least 6 consecutive days to avoid disturbance of hibernating hedgehogs.
- Any fences that might be erected should include a gap of 150mm long by 100mm high at some point in the base of each run of fencing to enable terrestrial vertebrates, including hedgehogs, to move through the plot and prevent entrapment.

### ***Other protected species***

To further enhance opportunities for invertebrates, reptiles, and great crested newts. Woodpiles, invertebrate hotels, and basking spots could be implemented around the pond directly adjacent to the site. Which would allow these species further opportunities for foraging and hibernation to utilize the areas to the north of the site boundary.

- Any debris piles should be dismantled by hand and the materials kept in skips until moved off site or disposed of.
- Any debris and materials arising from the proposed construction should be stored in skips and/or on pallets to prevent creating refuge sites for reptiles or amphibians.

## 8. Conclusions

The preliminary ecological appraisal found the Site to contain multiple habitats suitable for supporting protected species – namely birds, and small mammals such as hedgehogs. Adjacent habitats such as ponds and grassland could support great crested newts and reptiles like grass snakes and slow worms.

The following recommendations are made to minimise the risk of harm to individual animals:

- Covering of excavations and/or provision of exit ramps and safe storage of building materials that may harm animals is recommended during works to prevent harm to small mammals.
- **Toolbox talk** is given to all workers onsite for hedgehogs and great crested newts as a precaution.
- To prevent infringing legislation which protects all nesting birds, if any vegetation is to be cleared. It is recommended that **any vegetation clearance is carried out outside the breeding bird season** (which runs from March to September) or if not possible, following a nesting bird survey by a suitably experienced ecologist.

It is unlikely that the proposed development would cause any impacts to the conservation status of protected species in the area, or to the conservation sites in the surrounding area, but sensitive planning may increase species because of the habitat enhancements.

Any short-term impacts to species populations or individuals would have been minimised through the incorporation of the above recommendation prior to, and during demolition and construction of the extension.

### Biodiversity Enhancements (post construction)

Enhancement features, such as bat boxes (such as Eco Kent bat boxes and bat tubes) and bird boxes, could be incorporated into the final designs and therefore provide additional breeding, and sheltering opportunities for a range of wildlife. Hedgehog hibernation boxes could also be implemented to increase hibernation and shelter opportunities, as well as wildlife friendly fencing to allow the free movement of small mammals throughout site.

## 9. Validation

Table 3. Validity duration of the data.

Information Source	Date Undertaken	Valid Until	Comments
PEA	October 2023	January 2026 (2 years)	No further surveys will be required due to the negligible impact to ecologically important habitats.

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[https://magic.defra.gov.uk/Metadata\\_for\\_magic/SSSI/IRZuserguidance](https://magic.defra.gov.uk/Metadata_for_magic/SSSI/IRZuserguidance)

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

# 11. Appendices

## Appendix I: Table 4 target notes

Photos	Target Notes
 <p>1</p>	<p><b>Features of the site</b></p> <p>Target note 1 is a photo of a hedgehog that was found on site during the survey. Located to the rear of the building, on a pea shingle pathway.</p>
 <p>2</p>	<p>Target note 2 is a photo showing a deceased bank vole located to the northwest of the site boundary.</p>
 <p>3</p>	<p>Target note 3 shows the rear of the property, and one of the bird feeders that have been implemented by the client.</p>



4

Target note 4 is a photo showing the area of the pond to the north of the site boundary.



5

Target note 5 is a photo showing the 'invertebrate hotel' to the north of the site boundary, implemented by the client to increase the hibernation opportunities for insects.



6

Target note 6 shows a woodpile placed by the client to increase hibernation and foraging opportunities for a variety of species.

## Appendix II: Site Photos

Table 5: Site photos	
	
<p>The north-eastern view and elevations of the residence located on site.</p>	<p>Section of the property that is proposed to be demolished, along the western edge of the building.</p>
	
<p>Conservatory along the western edge of the building</p>	<p>Brick patio to the rear of the building, that the extension is proposed to be built on.</p>
	
<p>Greenhouse and raised planters to the north of the site, connecting the property to the area containing the pond.</p>	<p>The outbuilding located in the northern section of the site, showing some of the access to the property.</p>

### Appendix III: Species Lists

**Table 6: Plants**

Species on site	
Latin name	Common name/s
<i>Corylus avellana</i>	Hazel
<i>Helianthus annuus</i>	Sunflower
<i>Lamium album</i>	White deadnettle
<i>Urtica dioica</i>	Common nettle
<i>Musa spp.</i>	Banana spp.
<i>Olea europaea</i>	Olive Tree
<i>Crataegus monogyna</i>	Hawthorn
<i>Hedera helix</i>	Common ivy
<i>Primula vulgaris</i>	Primrose
<i>Taraxacum officinale</i>	Common dandelion
<i>Lolium perenne</i>	Ryegrass
<i>Stellaria media</i>	Chickweed

**Table 7: Vertebrates**

Species on site	
Latin name	Common name/s
<i>Cyanistes caeruleus</i>	Blue tit
<i>Turdus merula</i>	Blackbird
<i>Gallinula chloropus</i>	Moorhen
<i>Myodes glareolus</i>	Bank vole
<i>Troglodytes troglodytes</i>	Eurasian wren
<i>Columba livia domestica</i>	Feral pigeon



Appendix IV: Figures

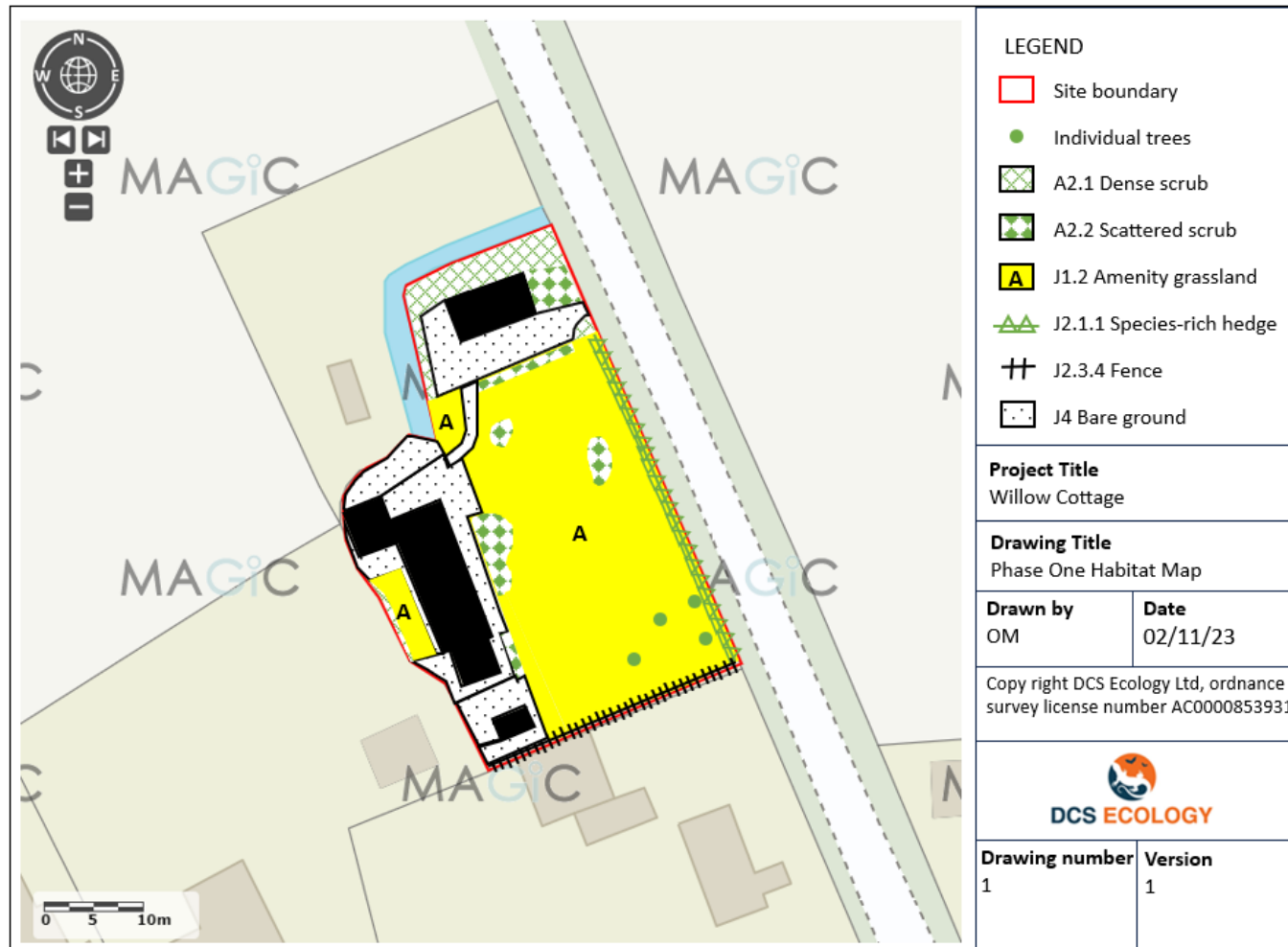


Figure 2: Phase 1 Habitat Map of Site (c) Crown Copyright under licence AC0000853931

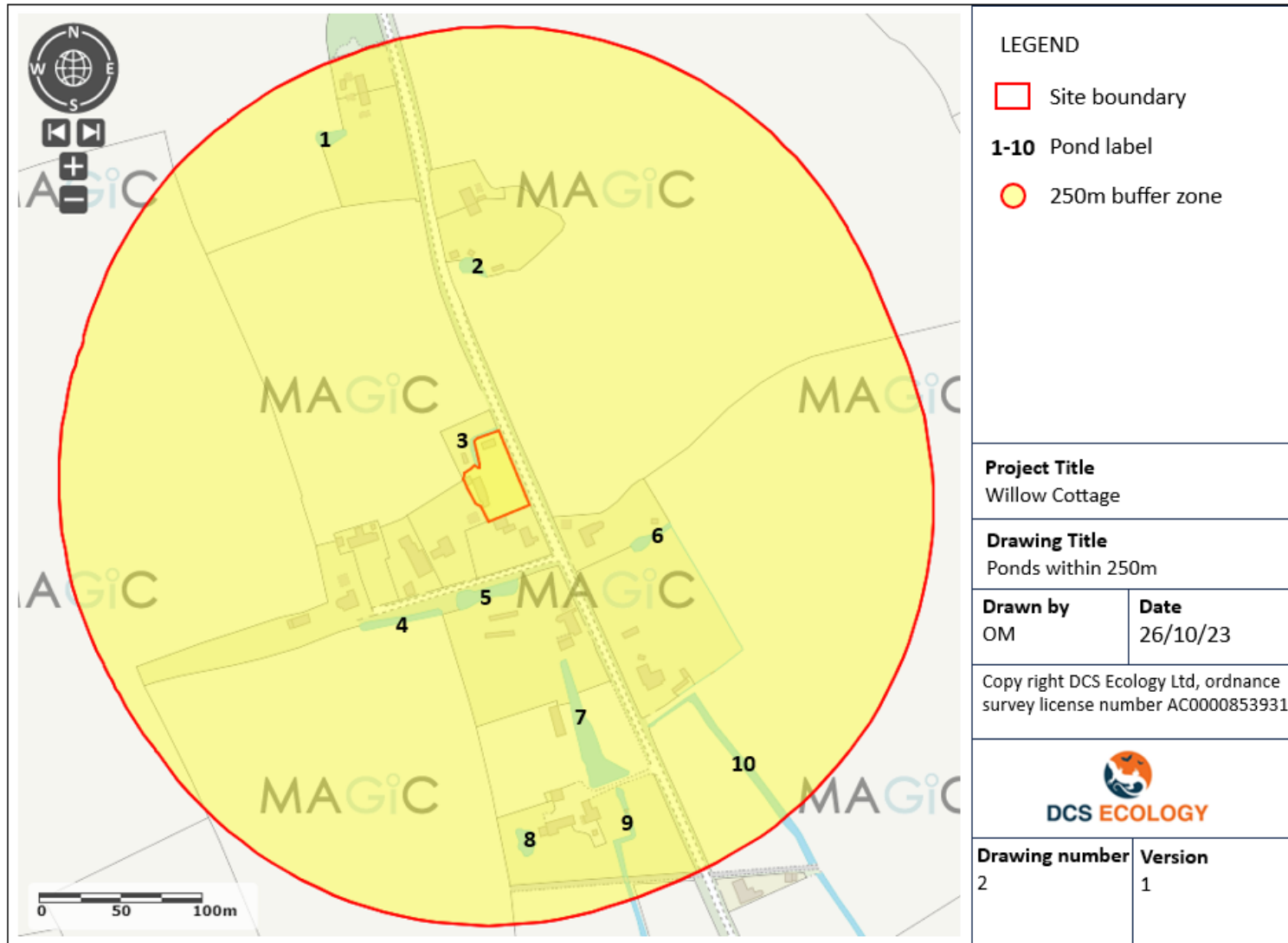


Figure 3: Pond Great Crested Newt Habitat Suitability Index Map 250m. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

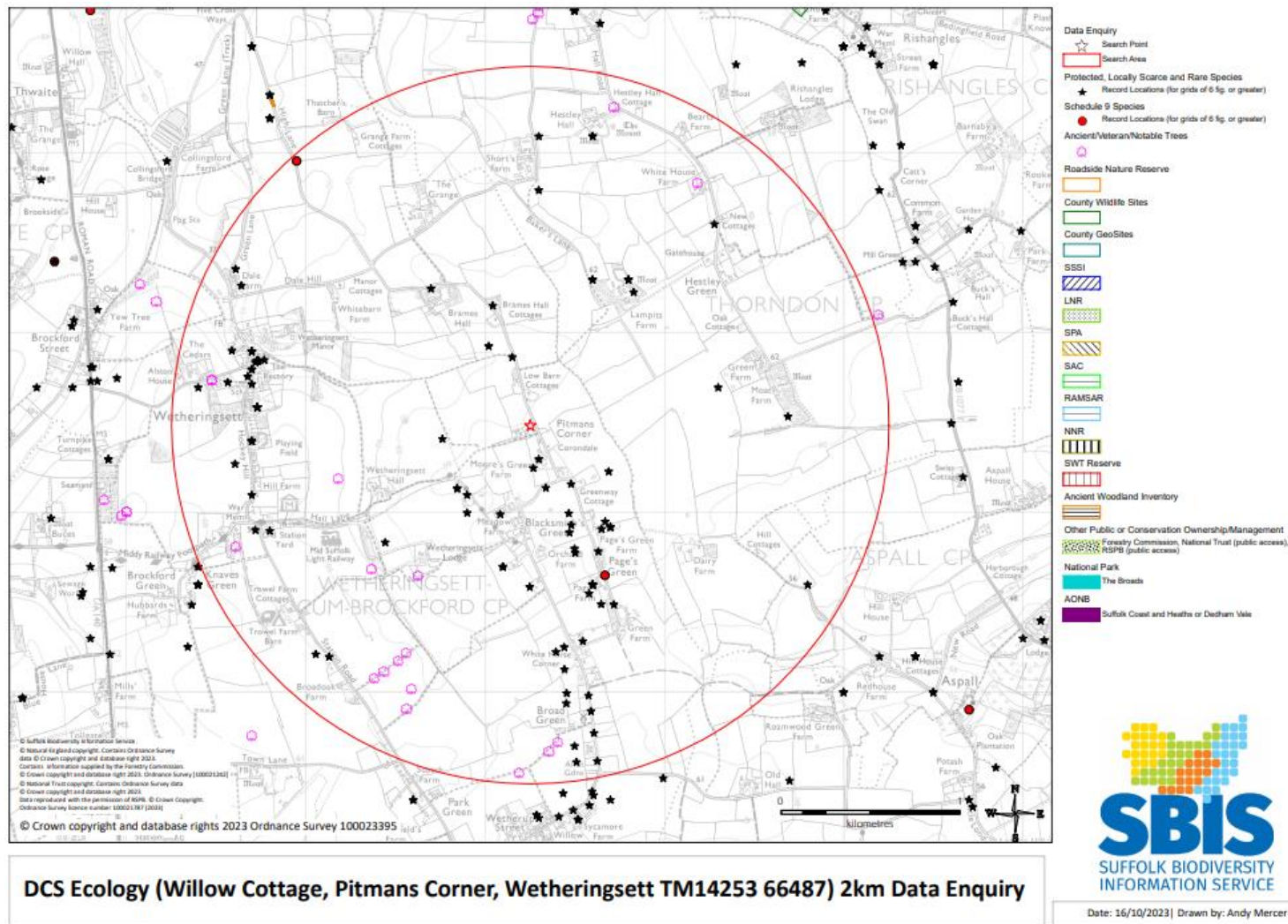


Figure 4: Protected species records, Statutory and Non-Statutory Designated Sites within 2km of the Site.

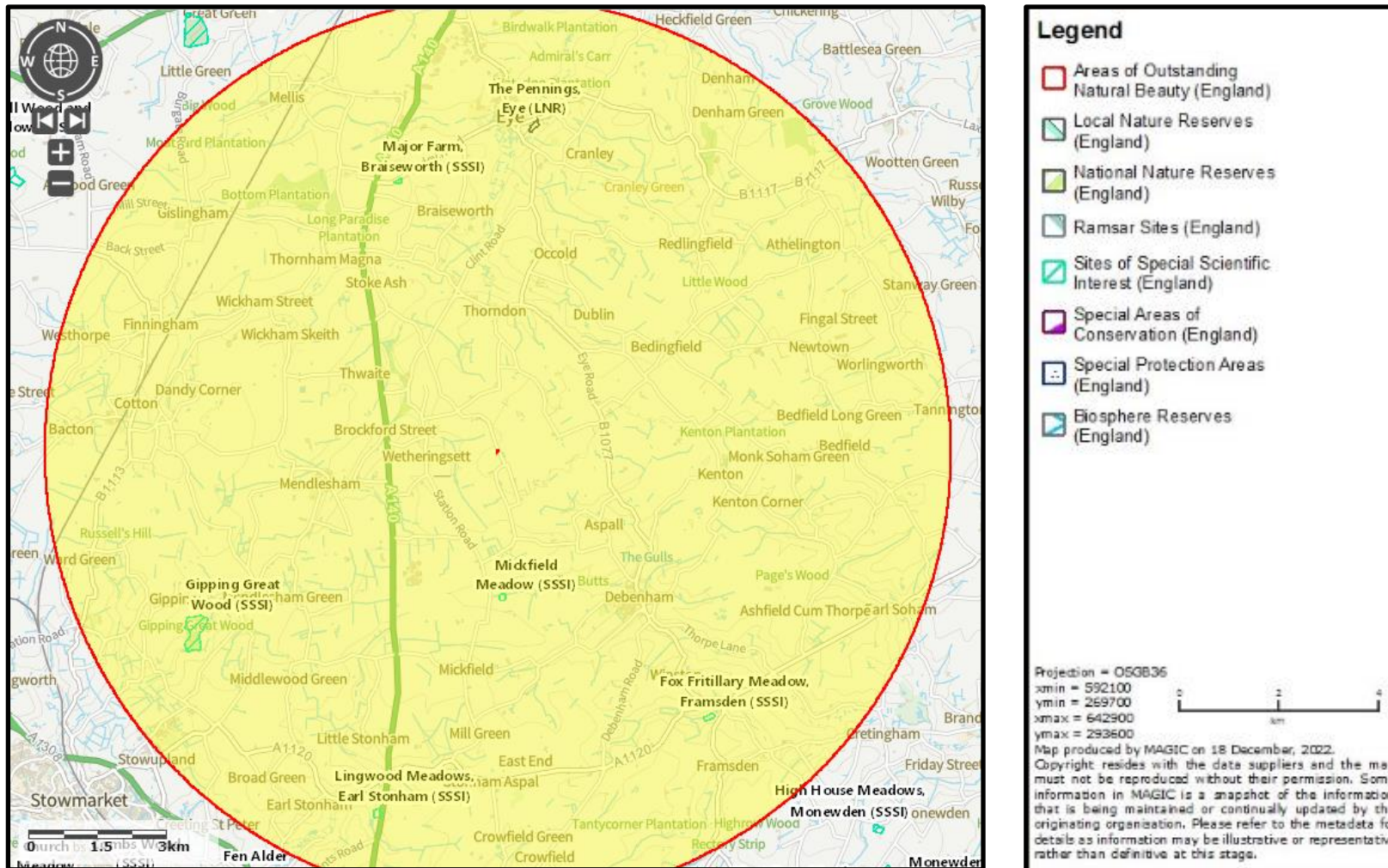


Figure 5: Statutory Conservation Sites within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

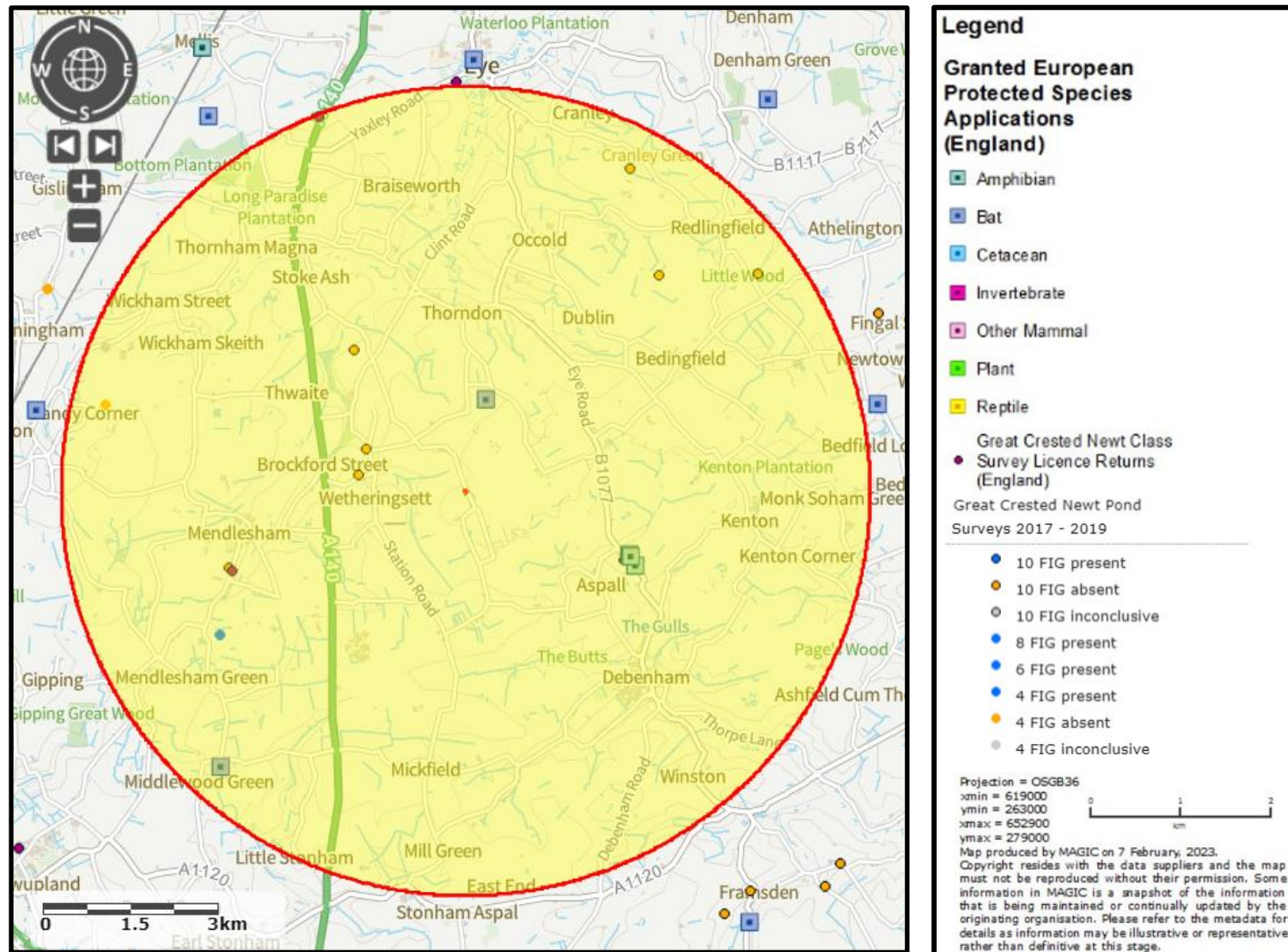
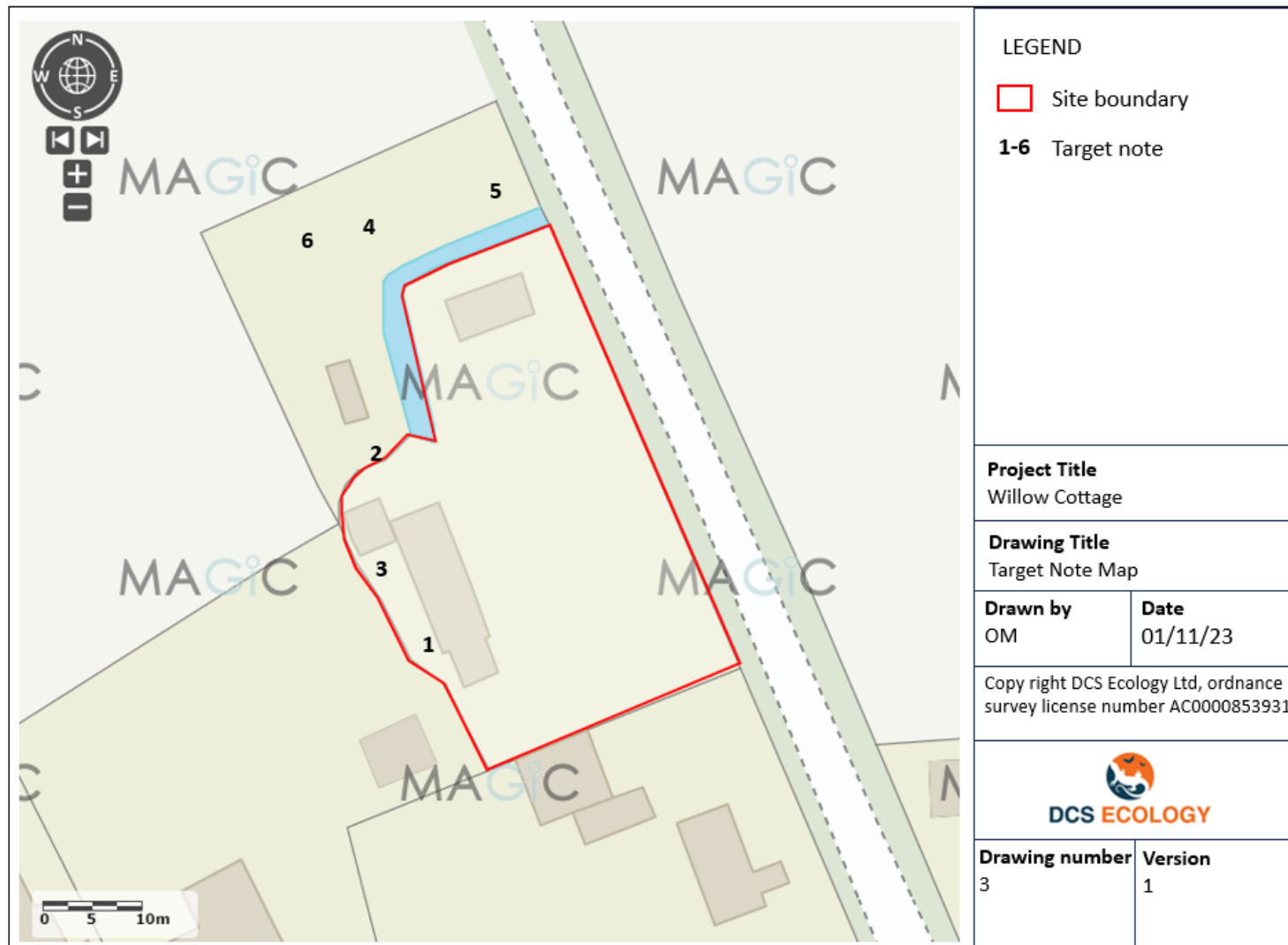


Figure 6: Protected species recorded on MAGIC within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931



**Figure 8:** Target notes map. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

<b>ARGUK GCN HSI Calculator</b>		
	Pond Name	Pond 3
	Grid Ref	TM14246651
SI No	SI Description	SI Value
1	Geographic location	1
2	Pond area	0.1
3	Pond permanence	0.9
4	Water quality	0.67
5	Shade	1
6	Water fowl effect	1
7	Fish presence	1
8	Pond Density	1
9	Terrestrial habitat	0.67
10	Macrophyte cover	0.4
<b>HSI Score</b>		<b>0.66</b>
Pond suitability (see to the right)		<i>Average</i>

<b>Categorisation of HSI Score by Lee Brady</b>	
<b>HSI Score</b>	<b>Pond Suitability</b>
< 0.50	Poor
0.50 - 0.59	Below average
0.60 - 0.69	Average
0.70 - 0.79	Good
> 0.80	Excellent

Figure 9: Great Crested Newt Habitat Suitability Index: Calculator score.

## Appendix V: Desk Study

**Table 8: WCA Sch. 1, BoCC Red Listed and Priority (BAP) bird species records within 2km of the Site.**

<b>Species common name</b>	<b>Latin name</b>	<b>Status</b>	<b>Most Recent Record</b>
Lesser Redpoll	<i>Acanthis cabaret</i>	S41, UKBAP	2009
Common Redpoll	<i>Acanthis flammea</i>	BoCC Red	2001
Skylark	<i>Alauda arvensis</i>	BoCC Red, S41, UKBAP	2011
Greylag Goose	<i>Anser anser</i>	WCA 1ii	2009
Swift	<i>Apus apus</i>	BoCC Red	2021
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2011
Cuckoo	<i>Cuculus canorus</i>	BoCC Red, S41, UKBAP	2011
House Martin	<i>Delichon urbicum</i>	BoCC Red	2011
Yellow Hammer	<i>Emberiza citrinella</i>	BoCC Red, UKBAP; S41	2022
Reed Bunting	<i>Emberiza schoeniclus</i>	UKBAP; S41	2009
Herring Gull	<i>Larus argentatus</i>	BoCC Red, UKBAP	2010
Linnet	<i>Linaria cannabina</i>	BoCC Red; UKBAP	2010
Spotted flycatcher	<i>Muscicapa striata</i>	BoCC Red, UKBAP, S41	201
House Sparrow	<i>Passer domesticus</i>	BoCC Red, UKBAP, S41	2011
Grey Partridge	<i>Perdix perdix</i>	BoCC Red; S41, UKBAP	2016
Marsh tit	<i>Poecile palustris</i>	BoCC Red; UKBAP	2009
Dunnock	<i>Prunella modularis</i>	UKBAP	2010
Bullfinch	<i>Pyrrhula pyrrhula</i>	UKBAP	2021
Woodcock	<i>Scolopax rusticola</i>	BoCC Red	2009
Turtle dove	<i>Streptopelia turtur</i>	BoCC Red, UKBAP, S41	2022



Starling	<i>Sternus vulgaris</i>	BoCC Red, UKBAP	2011
Redwing	<i>Turdus iliacus</i>	WCA1i	2009
Song thrush	<i>Turdus philomelos</i>	BoCC Red, UKBAP, S41	2011
Fieldfare	<i>Turdus pilaris</i>	BoCC Red, WCA1i	2015
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red	2010
Barn Owl	<i>Tyto alba</i>	WCA1i	2018
Marsh Harrier	<i>Circus aeruginosus</i>	WCA1i	2008
Hobby	<i>Falco subbuteo</i>	WCA1i	2008
Brambling	<i>Fringilla montifringilla</i>	WCA1i	2008
Grasshopper Warbler	<i>Locustella naevia</i>	BoCC Red, S41, UKBAP	2009
Yellow Wagtail	<i>Motacilla flava</i>	BoCC Red, UKBAP	2014
Tree Sparrow	<i>Passer montanus</i>	BoCC Red, S41, UKBAP	2009
Lapwing	<i>Vanellus vanellus</i>	BoCC Red, S41, UKBAP	2010

## Appendix VI: 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/EEC) 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 9: Relevant Protected Species Legislation**

Species	Legislation	Protection
<b>Bats</b>	<ul style="list-style-type: none"> <li>▪ Conservation of Habitats and Species Regulations (2010) (as amended)</li> <li>▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended)</li> <li>▪ Wild Mammals Act (1996)</li> </ul>	<p>It is an offence to:</p> <ul style="list-style-type: none"> <li>▪ Intentionally kill, injure or take any bat</li> <li>▪ Intentionally or recklessly disturb a bat</li> <li>▪ Intentionally or recklessly damage, destroy or obstruct access to a bat roost</li> </ul>
<b>Great Crested Newts</b>	<ul style="list-style-type: none"> <li>▪ Conservation of Habitats and Species Regulations (2010) (as amended)</li> <li>▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended)</li> </ul>	<p>It is an offence to:</p> <ul style="list-style-type: none"> <li>▪ Intentionally kill, injure or take a great crested newt</li> <li>▪ Intentionally or recklessly disturb a great crested newt</li> <li>▪ Intentionally or recklessly damage, destroy or obstruct access to any place used by a great crested newt for shelter or protection</li> </ul>
<b>Widespread Reptiles</b>	<ul style="list-style-type: none"> <li>▪ Wildlife and Countryside Act (WCA) (1981), Schedule 5 (as amended)</li> </ul>	<p>It is an offence to:</p> <ul style="list-style-type: none"> <li>▪ Intentionally kill or injure a reptile.</li> <li>▪ Sell, offer or expose for sale, have in possession or transport for the purpose of sale any live or dead reptile or any part of, or anything derived from, a reptile</li> </ul>
<b>Birds</b>	<ul style="list-style-type: none"> <li>▪ Wildlife and Countryside Act (WCA) (1981 (as amended)</li> </ul>	<p>It is an offence to:</p> <ul style="list-style-type: none"> <li>▪ Intentionally kill, injure or take any wild bird,</li> <li>▪ Intentionally take, damage or destroy nests in use or being built,</li> <li>▪ Intentionally take, damage or destroy eggs,</li> </ul> <p>Species listed on Schedule 1 of the WCA (1981) are afforded additional protection, making it an offence to intentionally or recklessly disturb such</p>



species at, on or near  
an active nest.

## Appendix VII: Abbreviations

Table 10: List of abbreviations	
<b>BAP</b>	Biodiversity Action Plan
<b>BCT</b>	Bat Conservation Trust
<b>BoCC</b>	Birds of Conservation Concern
<b>BR</b>	Biosphere Reserve
<b>CHSR</b>	Conservation of Habitats and Species Regulations 2017
<b>CIEEM</b>	Chartered Institute of Ecology and Environmental Management
<b>CROW</b>	The Countryside Rights of Way Act 2000
<b>CWS</b>	County Wildlife Site
<b>ECoW</b>	Ecological clerk of works
<b>eDNA</b>	Environmental DNA
<b>EIA</b>	Ecological Impact Assessment
<b>EPS</b>	European Protected Species
<b>GCN</b>	Great crested newt
<b>HPI</b>	Habitat of Principal Importance
<b>HSI</b>	Habitat Suitability Index
<b>HRA</b>	Habitat Regulations Assessment
<b>JNCC</b>	Joint Nature Conservation Committee
<b>LNR</b>	Local Nature Reserve
<b>LPA</b> s	Local Planning Authorities
<b>MAGIC</b>	Multi-Agency Geographic Information for the Countryside
<b>NERC</b>	Natural Environment and Rural Communities Act
<b>NBIS</b>	Norfolk Biodiversity Information Service
<b>NE</b>	Natural England
<b>NERC</b>	Natural Environment and Rural Communities Act 2006
<b>NNR</b>	National Nature Reserve
<b>NPPF</b>	The National Planning Policy Framework
<b>PEA</b>	Preliminary Ecological Appraisal
<b>PRA</b>	Preliminary Roost Assessment
<b>PRF</b>	Potential (bat) Roosting Feature
<b>RAM</b> s	Reasonable Avoidance Measures
<b>SAC</b>	Special Area of Conservation
<b>SBAP</b>	Suffolk Biodiversity Action Plan
<b>SBIS</b>	Suffolk Biodiversity Information Service
<b>SPA</b>	Special Protection Area
<b>SSSI</b>	Special Site of Scientific Interest
<b>TAF</b>	Temporary amphibian fencing
<b>WCA</b>	Wildlife and Countryside Act 1981 (as amended)
<b>UKBAP</b>	United Kingdom's Biodiversity Action Plan

Table 11: Abbreviations of bat species		
Abbreviations	Common name	Latin name
<b>BARB</b>	Barbastelle (bat)	<i>Barbastella barbastellus</i>
<b>BLE</b>	Brown long-eared (bat)	<i>Plecotus auritus</i>
<b>CPIP</b>	Common Pipistrelle bat	<i>Pipistrellus pipistrellus</i>
<b>DAUB</b>	Daubenton's bat	<i>Myotis daubentoniid</i>
<b>LEI</b>	Lesser noctule / Leisier's bat	<i>Nyctalus leiseri</i>
<b>NATT</b>	Natterer's bat	<i>Myotis nattereri</i>
<b>NOC</b>	Common noctule	<i>Nyctalus noctule</i>
<b>NPIP</b>	Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>
<b>SERO</b>	Serotine (bat)	<i>Eptesicus serotinus</i>
<b>SPIP</b>	Soprano pipistrelle (bat)	<i>Pipistrellus pygmaeus</i>

**Appendix IX: Enhancement and mitigation example designs.**

Table 12: Compensation and enhancement Examples.	
	
<p>Photo 1: Woodstone Seville Box 28-32mm Hole.</p>	<p>Photo 2: Woodstone multichambered bat box</p>