

# Preliminary Ecological Appraisal (PEA)

of

Land Adjoining  
Primrose Farm,  
Monk Soham,  
Woodbridge,  
IP13 7EN,

*For*

*Michael Keeble*

September 2023



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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 Michael Keeble, to carry out a Preliminary Ecological Appraisal (PEA), for an application for the change of land use, and development/conversion of an articulated lorry trailer into residential accommodation (central grid reference TM 2237 6560, hereby referred to as the Site).

The site is 0.525ha (5250 square metres) of grazing meadow surrounded with mature trees and dense scrub. This is situated directly adjacent to Primrose Farm, approximately 900m east of the village of Monk Soham, Suffolk (see Site description).

The preliminary ecological appraisal was carried out on the 31<sup>st</sup> of August 2023 by Duncan Sweeting, and Oliver Monks of DCS Ecology Ltd, to assess the ecological value of the Site.

## **1.2 Results**

The desk study found two country wildlife sites:

- Bats
- Birds
- Amphibians (including great crested newts)
- Hedgehogs
- Other mammals- brown hares, water voles
- Several protected plants and invertebrates of note

The habitats recorded onsite included grazing meadow, with a variety of mature trees and dense scrub surrounding the site. Adjacent habitats included residential areas and related areas of hardstanding, ponds, and arable land.

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 Michael Keeble to carry out a Preliminary Ecological Appraisal (PEA), for a proposed land-use change and development on land adjacent to Primrose Farm, Monk Soham, Woodbridge, IP13 7EN (central grid reference TM 2237 6560, hereby referred to as the Site).

### 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 0.525ha (5250 square metres) of grazing meadow surrounded with mature trees and dense scrub. This is situated directly adjacent to Primrose Farm, approximately 900m east of the village of Monk Soham, Suffolk (see Site description). Within the site boundary there are few habitats of ecological importance however adjacent habitats including multiple ponds and mature trees have the potential to support protected species.

The site consisted of an area of scrub and grazing field. Within the site boundaries is an area of hardstanding to the south for access to the site. As well as a temporary residential caravan at the northern end of the site. Directly adjacent to site were arable fields to the north and west. With an area of land used for holiday letting to the east. Various other residential buildings are located along School Road, which is adjacent to the southern side of site. Within the site were areas of scrub including saplings, young and mature trees over species such as oaks (*Quercus robur*) and Hawthorn (*Crataegus monogyna*) (See species list in appendix III). Seven ponds exist within 250m of site and HSI's were conducted for four ponds, descriptions and HSI results for these ponds can be found in section 5.

Beyond the site, the wider countryside consisted predominately of arable fields and residential buildings. To the north-west of site are arable fields lined by sparse hedgerows with the occasional trees that offered commuting networks for local bat populations. The ponds within 250m of the site, located to the west of site, also provide good foraging opportunities for bats. As well as possible habitat for great-crested newts.

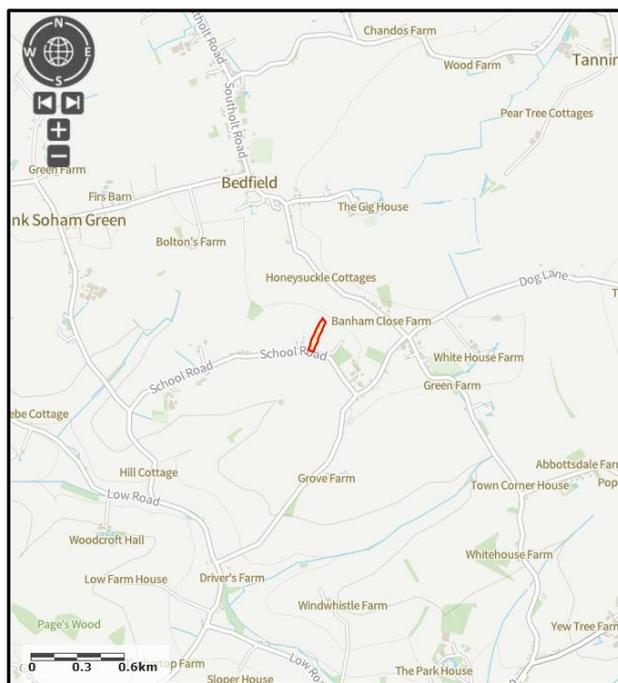


Figure 1. Site location (outlined in red). (1:25000) Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

### 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) July 2021 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 August 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 11<sup>th</sup> of September 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) and Oliver Monks BSc (hons) on the 31<sup>st</sup> of August 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 fairly cloudy (50% cloud cover), light air (Beaufort scale 1 to 1.5) and a temperature of 14°C, with good visibility. 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 (section 5).

### 4.2 Designated Sites Data

The data search produced the following results:

In regard to Local/National European site, there are two County Wildlife Sites Citations within 2km of the Site. Within 10km of site there are six SSSI, and no SAC, AONB, LNR, NNR, RS, SPA, or BR.

These are:

#### County wildlife sites:

- ROADSIDE NATURE RESERVE 146 – Is a roadside nature reserve known for its geologically important boulder-clay presence. With boulder-clay species like Oxlip (*Primula elatior*), Stinking Hellebore (*Helleborus foetidus*) and Wood Cranesbill (*Geranium sylvaticum*).
- ROADSIDE NATURE RESERVE 188 – Is a roadside nature reserve, this site is important due to the presence of a nationally scarce plant, Sulphur Clover (*Trifolium ochroleucon*). Suffolk has a large proportion of the national population.

#### 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*).
- FOX FRITILLARY MEADOW, FRAMSDEN - 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. These include Meadowsweet (*Filipendula ulmaria*), Cowslip (*Primula veris*), Cuckooflower (*Cardamine pratensis*) and Ragged Robin (*Lychnis flos-cuculi*).

- HIGH HOUSE MEADOWS, MONEWDEN – These meadows are herb-rich unimproved permanent pasture. The plant community is typical of calcareous clay pastures and contains a number of scarce species, including *Colchicum autumnale*, *Orchis morio*, *Trifolium ochroleucon* and *Ophioglossum vulgatum*. Grasslands of this type are threatened and fragile.
- MONEWDEN MEADOWS – This site which consists of three floristically rich old meadows is probably the best remaining example of unimproved calcareous clay and neutral grassland remaining in Suffolk. It supports a wide range of grasses and herbs including Meadow Saffron (*Colchicum autumnale*) and Fritillary (*Fritillaria meleagris*). The sward is dominated by Meadow Foxtail (*Alopecurus pratensis*), Red Fescue (*Festuca rubra*), Crested Dog's-Tail (*Cynosurus cristatus*) and Yorkshire Fog (*Holcus lanatus*). The herb flora which is exceptionally diverse, includes such notable species as Meadow Saffron, Fritillary, Green-winged Orchid (*Orchis morio*) and Early Purple Orchid (*Orchis mascula*). Other Species characteristic of this type of grassland include Cowslip (*Primula veris*), Ox-eye Daisy (*Chrysanthemum leucanthemum*), Hay Rattle (*Rhinanthus minor*), Twayblade (*Listera ovata*), Adder's Tongue Fern (*Ophioglossum vulgatum*), Pyramidal Orchid (*Anacamptis pyramidalis*) and Pepper Saxifrage (*Silaum silaus*).
- MOAT FARM MEADOWS, OTLEY - This site consists of two of the best remaining unimproved, calcareous and neutral grassland meadows in Suffolk. Traditionally cut for hay the site is species rich and supports a wide range of grasses and herbs. As well as representing one of the rarer grassland communities in which green-winged orchid (*Orchis morio*) is abundant, the meadows also contain one of the largest populations in Suffolk of meadow saffron (*Colchicum autumnale*). The grass sward contains a mixture of grasses including meadow foxtail (*Alopecurus pratensis*), sweet vernal grass (*Anthoxanthum odoratum*), red fescue (*Festuca rubra*) and Yorkshire fog (*Holcus lanatus*). Flote-grass (*Glyceria fluitans*) and various rushes and sedges *Carex hirtii*, *C. flacca* and *Juncus effusus* are dominant in wetter areas. Amongst the more notable herb species present are meadow saffron and green-winged orchid. Other notable species include adder's tongue fern (*Ophioglossum vulgatum*), twayblade (*Listera ovata*), cowslip (*Primula veris*), cuckoo flower (*Cardamine pratensis*) and ox-eye daisy (*Leucanthemum vulgare*).
- CRANSFORD MEADOW - This site consists of two unimproved species-rich meadows which have developed in a shallow valley close to the headwaters of a tributary of the River Alde. The sward supports a wide variety of grasses and herbs including Creeping Bent (*Agrostis stolonifera*), Meadow Foxtail (*Alopecurus pratensis*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's-tail (*Cynosurus cristatus*), Meadow and Red Fescues (*Festuca pratensis* and *F. rubra*), Perennial Rye-grass (*Lolium perenne*) and Rough-Stalked Meadow-grass (*Poa trivialis*) as the co-dominant grasses. Meadow Vetchling (*Lathyrus pratensis*), Pepper Saxifrage (*Silaum silaus*), Quaking-grass (*Briža media*), Adder's Tongue Fern (*Ophioglossum vulgatum*), Twayblade (*Listera ovata*), Green-winged Orchid (*Orchis morio*) and Common Spotted Orchid (*Dactylorhiza fuchsia*) also occur with Lesser Spearwort (*Ranunculus flammula*) growing in wetter areas.

### 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>
2015-18425-EPS-MIT	S-PIP	N	Y	TM21376801	Newtown
2019-39700-EPS-MIT	BLE, C-PIP	N	Y	TM22496383	Earl Soham
2017-29336-EPS-MIT	BLE, S-PIP	N	Y	TM27686690	Dennington
2018-34054-EPS-MIT	BLE, S-PIP	N	Y	TM27686690	Dennington
2018-33126-EPS-MIT	BLE, C-PIP, NATT, S-PIP	N	Y	TM25116371	Earl Soham
2018-33126-EPS-MIT-1	BLE, C-PIP, NATT, S-PIP	N	Y	TM25116371	Earl Soham
2019-40991-EPS-MIT	GCN	N	Y	TM23885950	Brandeston
2019-43471-EPS-MIT-1	BLE, C-PIP, NATT, S-PIP	N	Y	TM23885950	Brandeston
2019-43033-EPS-MIT-1	GCN	N	Y	TM23095900	Monewden
2019-39772-EPS-MIT	GCN	N	Y	TM17186520	Aspall
EPSM2013-5975	GCN	N	Y	TM17106537	Aspall
2016-24657-EPS-MIT	GCN	N	N	TM17096541	Aspall
2016-24657-EPS-MIT-1	GCN	N	Y	TM17096541	Aspall
2016-24657-EPS-MIT-2	GCN	N	Y	TM17096541	Aspall
2016-24657-EPS-MIT-3	GCN	N	Y	TM17096541	Aspall
2014-866-EPS-MIT	BLE	N	Y	TM28696331	Framlingham
2014-866-EPS-MIT-1	BLE	N	Y	TM28696331	Framlingham

The MAGIC data search returned 17 records of past and current EPS licences 8 were for great crested newts and 9 were for bats within a 7km radius, including common pipistrelle, soprano pipistrelle, brown long-eared, and natterers. The nearest record to site was a current EPS licence for the damage of a brown long-eared and common pipistrelle resting place. It was 1.8km to the south of site. There were 19 GCN class licence returns at 5 locations and 6 GCN pond surveys between 2017 and 2019 with none of the 6 having GCN present.

#### SBIS (2 km radius)

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

<b>Species</b>	<b>Distance from site (km)</b>
Pedunculate Oak ( <i>Quercus robur</i> )	1.45
Pedunculate Oak ( <i>Quercus robur</i> )	1.4

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. Both trees are over 1km away from site.

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

The site consisted of a grazing meadow, bordered with scrub and mature trees directly adjacent to Primrose Farm to the west. The surrounding borders of site contained scrub with species such as oak (*Quercus robur*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), blackthorn (*Prunus spinosa*) and field maple (*Acer campestre*). Adjacent habitats were found 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 sparse lineated hedgerows and residential buildings with related hardstanding.

Plant species within the site consisted of species such as Bramble (*Rubus fruticosus*), Common Knapweed (*Centaurea nigra*), Creeping Buttercup (*Ranunculus repens*), Common Yarrow (*Achillea millefolium*), Selfheal (*Prunella vulgaris*), and Milk and Spear Thistle (*Silybum marianum* and *Cirsium vulgare*). Larger more mature scrub surrounded the site (a map showing the habitat types on Site can be seen in Appendix IV.), with species such as Common Ash (*Fraxinus excelsior*), Elm (*Ulmus procera*), Elder (*Sambucus nigra*) and Beech (*Fagus sylvatica*). With many more species noted (please see Appendix III for full plant list of species).

## 5. **Protected and Priority Species Within the Site**

### **Flora**

The desk study only highlighted one species of rare plant that has been previously recorded within 2km of the site, this plant being Sulphur Clover (*Trifolium ochroleucon*). Orchid species were also highlighted within the search, Pyramidal Orchid (*Anacamptis pyramidalis*), Bee Orchid (*Ophrys apifera*) and Early-Purple Orchid (*Orchis mascula*).

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.

### **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 surrounded by mature trees, apart from the access point on the southern side of site. Multiple of these mature trees had potential roost features with moderate to high potential. The trees would need a minimum of a climb and inspect survey of the features if removal was required for the development.

Trees were also present adjacent to site and three 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 three records within 2km of the Site, comprising at least 3 of the 13 bat species known to Suffolk. Including brown long-eared (*Plecotus auritus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus*). All three of these records were located 700m to the east of site.

## Fungi

No rare fungi were found on site or in the data search conducted by SBSI.

## Great Crested Newts

Habitats on the site were 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. Adjacent habitats including ponds were suitable to support GCN and habitats between site and these ponds consisted of habitat suitable to support them in their terrestrial phases.

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

- Pond 1 – Located approx. 10m to the west of site and 40 m<sup>2</sup>. Based on data from MAGIC maps, this was a proposed pond. However, on site it was identified to be a dry ditch. It is likely that this pond dries up frequently. No HSI could be conducted due to the absence of water.
- Pond 2 – Located approx. 100m to the west of site and 315 m<sup>2</sup>. A HSI was conducted, results can be seen below.
- Pond 3 – Located approx. 100m to the west of site and 100 m<sup>2</sup>. A HSI was conducted, results can be seen below.
- Pond 4 – Located approx. 60m to the south-west of site and 350 m<sup>2</sup>. A HSI was conducted, results can be seen below.
- Pond 5 – Located approx. 25m to the south of site and 135 m<sup>2</sup>. No access was available during the survey, so no HSI was conducted.
- Pond 6 – Located approx. 85m to the south-east of site and 40 m<sup>2</sup>. No access was available during the survey, so no HSI was conducted.
- Pond 7 – Located approx. 200m to the south-east of site and 30 m<sup>2</sup>. No access was available during the survey, so no HSI was conducted.

The areas of dense scrub that border the site and adjacent Primrose Farm provide possible habitat for GCN in their terrestrial phase. With ponds 2, 3 and 4 having a rating of average or above based on results of HSI calculations, this suggests that there may be GCN present in ponds during their breeding season and aquatic phase. The exact results of these calculations can be found in Appendix IV.

There were seven records of GCN returned in the SBIS data search, the nearest being 0.7km south-east of site. Although much of the wider landscape was arable, and semi-improved grassland. The site provided sub-optimal habitat for GCN during terrestrial phases and connectivity between site and the location of the closest SBIS record was poor and GCN would be exposed to predation over such a vast distance.

### **Hedgehogs**

Some of the habitat on site was considered optimal for hedgehogs, as it had areas of adequate foraging and hibernation opportunities, such as shrubs, woodpiles, and dense scrub. Adjacent habitats including hedgerows and scrub also provided potential to support foraging and nesting opportunities. The data search returned 8 records of hedgehog within 2km of the Site, the nearest of which being 610m south-east of site.

### **Reptiles**

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

There were some locations that could provide sheltering opportunities for reptiles. Such as corrugated sheet metal and wood piles that were preset on site. However, when checked for signs of reptiles, there were no droppings, sloughs or reptiles identified.

There were four records of grass snakes recorded within 2km SBIS data search. With the closest record being 1.3km to the south of site.

### **Birds**

The surrounding scrub and mature trees found bordering the site was optimal habitat for birds, and a vast abundance were recorded during the survey. This habitat was suitable for nesting and roosting birds. Habitat that was adjacent to site including trees and shrubs were also suitable for nesting and roosting birds. Whilst on site, no active or inactive nests were noted (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 found covering the majority of site, particularly good habitat was found in the bordering scrub that had the potential to support small assemblages of common invertebrates. Rare/protected terrestrial invertebrates on site was negligible. No rare invertebrates or habitats likely to support rare invertebrates were found onsite, and further invertebrate surveys were not considered necessary.

The desk study highlighted a couple species of invertebrates that have been previously recorded within 2km of the Site, such as Small Heath (*Coenonympha pamphilus*) and Wall butterfly (*Lasiommata megera*) listed under section 41 of the Natural Environment and Rural Communities Act 2006 as species of principle importance for conservation of biodiversity. No species noted on the IUCN red list were identified in the data search.

### **Other Protected Species**

In regard to other protected species there was one record of a water vole, returned within the data search. Habitats onsite are unsuitable for water voles.

## 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 semi-permanent accommodation to the northern section of site. And a change of land use for the majority of site from a section of unused to used grazing meadow for livestock. There will be minimal loss of vegetation with the development of accommodation, and this area in general is of low ecological value. The meadow has been used, historically, as a grazing meadow, and is of low ecological value. The borders of the site are to be left alone, allowing the scrub and mature trees with the most ecological value to continue to support species that use these habitat (a list of plant species recorded onsite can be found in Appendix III). There are rare species that have the potential to use these habitats, the habitats themselves are not listed within the Section 41 of the NERC Act 2006 as being of principle important to the conservation of biodiversity within the UK.

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.

If site boundaries were altered to include mature trees subject to felling, then under The Forestry Act 1967, all trees over 8cm in diameter will require a felling licence prior to removal, unless it is in the interest of health and safety. This is required if over 5 cubic metres (m<sup>3</sup>) of growing trees are to be felled.

**Further botanical survey is not considered necessary; however, any mature trees within close proximity of the Site should be suitably protected from harm following guidance set out in BS5837 (2012).**

### 6.3 *Protected Species*

#### *Badgers*

Habitats adjacent to the Site were considered suitable for badger foraging; however, no badger signs were observed during this survey. The data search showed no 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 hedgehogs have been recorded in the local area, any possible construction works should have implemented several precautionary measures. While no major construction is planned for this site, the installation of more permanent accommodation may result in these measures having more relevance:**

- Covering excavations overnight to prevent animals falling in, or the provision of an escape ramp;
- Safe storage of materials that may harm animals; and
- Security lighting to be set on short timers to avoid disturbing nocturnal animals using the Site and immediate surrounding area.

### ***Bats***

Structures onsite assessed for roost suitability included mature trees. No signs of bats were found however some of the trees had moderate to high potential roost features therefore a climb and search would be needed before anything impacting these trees can be conducted. **Further bat surveys are necessary if any works take place impacting the trees at the northern section of site with potential roost features.**

The Site had sub optimal foraging habitats for bats in the form of grazing meadow with a border of mature trees and scrub but didn't include habitats such as deciduous woodland or lowland wetlands. Although adjacent habitats, treelines, ponds, and hedgerows, did offer foraging and commuting opportunities for bats. As these habitats were in close proximity to site, and there are nearby records of four different species of bats, any external lighting to be used on site is recommended to be sensitive lighting and should follow guidance provided by the Bat Conservation Trust (Bats and Lighting in the UK, 2009), to ensure foraging and commuting bats using adjacent habitats are not negatively impacted. Lighting measures should also be applied to temporary security lighting used during the construction phase. This could include low pressure sodium lamps, with hoods, cowls or shields, to prevent light spillage. More detailed advice can be provided from a suitable experienced bat ecologist.

### ***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 also had suitable foraging opportunities in adjacent habitats.

**Any building clearance should be carried out outside the breeding bird season, which runs from 1<sup>st</sup> March to 15<sup>th</sup> September (species dependant) or following a nesting bird survey by a suitably experienced ecologist – to prevent infringing legislation which protects all nesting birds. In addition, the works of stripping / removing any buildings should be done under a Risk Avoidance Measures (RAMs) Method Statement and under the supervision of a suitability experienced ecologist clerk of works.**

### ***Great Crested Newts***

There was a total of seven SBIS records within 2km, and 8 EPS licence records. There were 19 GCN class licence returns at 5 locations and 6 GCN pond surveys between 2017 and 2019 with none of the ponds having GCN present within 7km. Although the site was sub optimal for GCN

due to majority of site having a lack dense vegetation cover, nearby habitats, including seven ponds, had the potential to support GCN.

**There are no close records of GCN, and the proposed development will have little impact on both terrestrial and aquatic habitats. Therefore, no further surveys are considered necessary.**

### ***Hedgehogs***

**Further survey is not considered necessary**, however, as there are nearby records of this species, and small areas of habitats on site that were suitable, any potential nesting habitat (discarded building materials, wood piles 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 large areas of suitable reptile habitat – sheltering and hibernation opportunities. There were some locations that could provide sheltering opportunities for reptiles; however, no signs of reptiles were found on site when surveyed. **Therefore, no further survey is considered necessary. However, as reptiles, particularly grass snakes 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 little to no habitat for small assemblages of common invertebrates and was not considered suitable for supporting the rare/protected species highlighted within the desk study. **Therefore, 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**

Bird boxes are highly advised, 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. With such an abundance of birds to the northern side of the site, the introduction of additional nesting opportunities will further enhance the habitat present.

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 in the meantime.

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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***

No evidence of small mammals including hedgehogs was found on site. Although habitats on site and adjacent had the potential to support these species. The development will have a negligible impact on these habitats no further enhancements are recommended for these species.

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

Rare and/or protected invertebrates, reptiles and great crested newts were considered unlikely to be present onsite, and no further enhancement is necessary.

## **8. Conclusions**

The preliminary ecological appraisal found the Site to contain some habitat suitable for supporting protected species – birds, and small mammals such as hedgehogs. With the possibility to support bats. Adjacent habitats such as ponds could support great crested newts and reptiles mainly grass snakes.

- The following recommendations are made to minimise the risk of harm to individual animals:
- **Sensitive lighting measures for bats**, and security lighting to be set on short timers to avoid disturbing nocturnal animals.
- Covering of excavations and/or provision of exit ramps and safe storage of materials that may harm animals is recommended during works to prevent harm to mammals.
- To prevent infringing legislation which protects all nesting birds, 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.
- If mature trees and dense scrub situated along the site boundary are to be removed/reduced or impacted, they will need to be checked and surveyed for nesting birds and bats.

It is unlikely that the proposed development would cause a significant long-term impact to the conservation status of protected species in the area or to the conservation sites in the surrounding area, due to the size of the development, but sensitive planning may increase species because of the habitat enhancements.

Short-term impacts to species populations or individuals are also minimal, as the proposed development doesn't include any major works. Any possible short-term impacts would have been minimised through the incorporation of the above recommendation prior to, and during construction. If any dense scrub or mature trees are to be removed, then further surveys will have to be completed with regards to nesting birds and roosting bats. However, as the development is small-scale and just involves a change in land-use and development of a single residential building. No further surveys are considered necessary.

### **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.

## 9. Validation

**Table 3.** Validity duration of the data.

Information Source	Date Undertaken	Valid Until	Comments
PEA	September 2023	September 2025 (2 years)	No further surveys will be required unless mature trees or dense scrub will be impacted – due to the negligible impact of the development on ecologically important habitats.

## 10. References

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

<https://www.gov.uk/government/publications/great-crested-newts-apply-for-a-mitigation-licence>

# 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 of a pile of building materials that could provide sheltering opportunities to reptiles and newts.</p>
 <p>2</p>	<p>Target note 2 is a photo showing a pile of metal sheeting to the northern side of site, that could provide sheltering and basking opportunities to reptiles.</p>
 <p>3</p>	<p>Target note 3 shows a photo of a comma butterfly taken while on site, surrounded by blackberries and bramble brambles.</p>



4

Target note 4 is a photo of potential bat roosting features on a mature tree on the northern boundary of the site.



5

Target note 5 shows some of the bird species present on site. In this photo there is a Goldfinch and Blue tit.

## Appendix II: Site Photos

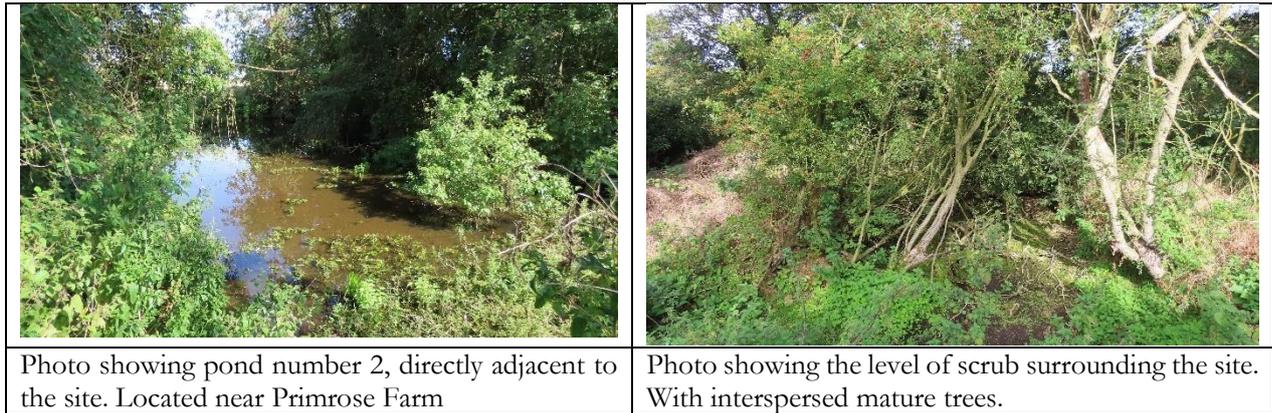
**Table 5: Site photos**



Photo showing the primary habitat on site, uncut grazing meadow towards the middle of the site. With mature trees and scrub located along the boundaries.



Photo showing the wooden dividing wall between the southern and northern section of site.



### Appendix III: Species Lists

Table 6: Plants

Species on site	
Latin name	Common name/s
<i>Silybum marianum</i>	Milk thistle
<i>Alliaria petiolata</i>	Garlic mustard
<i>Cirsium arvense</i>	Field thistle
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Convolvulus arvensis</i>	Field bindweed
<i>Urtica dioica</i>	Common nettle
<i>Achillea millefolium</i>	Common yarrow
<i>Ranunculus repens</i>	Creeping buttercup
<i>Crataegus monogyna</i>	Hawthorn
<i>Rubus fruticosus</i>	Brambles
<i>Prunus spinosa</i>	Blackthorn
<i>Taraxacum officinale</i>	Common dandelion
<i>Senecio jacobaea</i>	Common ragwort
<i>Trifolium repens</i>	White clover
<i>Bellis perennis</i>	Common daisy
<i>Trifolium pratense</i>	Red clover
<i>Prunella vulgaris</i>	Self-heal
<i>Hedera helix</i>	Common ivy
<i>Betula pendula</i>	Silver birch
<i>Quercus robur</i>	Oak
<i>Plantago major</i>	Broadleaf plantain
<i>Plantago lanceolata</i>	Narrowleaf plantain
<i>Fraxinus excelsior</i>	Common ash
<i>Sambucus nigra</i>	Elder
<i>Lolium perenne</i>	Rye grass
<i>Chamaemelum nobile</i>	Chamomile
<i>Centaurea nigra</i>	Knapweed

<i>Ajuga reptans</i>	Bugle
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil
<i>Daucus carota</i>	Wild carrot
<i>Silene latifolia</i>	White campion
<i>Lamium album</i>	White dead-nettle
<i>Lamium purpureum</i>	Red dead-nettle
<i>Acer campestre</i>	Field maple
<i>Fagus sylvatica</i>	Beech
<i>Solanum spp.</i>	Nightshade spp.

**Table 7: Invertebrates**

Species on site	
Latin name	Common name/s
<i>Bombus terrestris</i>	Buff tailed bumblebee
<i>Coccinellidae</i>	Ladybug
<i>Pieris rapae</i>	Small white butterfly
<i>Caelifera spp</i>	Grasshopper spp
<i>Polygonia c-album</i>	Comma butterfly
<i>Ensifera spp.</i>	Cricket spp.

**Table 8: Birds**

Species on site	
Latin name	Common name/s
<i>Columba livia</i>	Rock dove
<i>Dendrocopos major</i>	Greater-spotted woodpecker
<i>Cyanistes caeruleus</i>	Blue tit
<i>Parus major</i>	Great tit
<i>Troglodytes troglodytes</i>	Wren
<i>Regulus ignicapilla</i>	Firecrest
<i>Carduelis carduelis</i>	Goldfinch
<i>Aegithalos caudatus</i>	Long-tailed tit
<i>Periparus ater</i>	Coal tit
<i>Garrulus glandarius</i>	Eurasian jay

Appendix IV: Figures

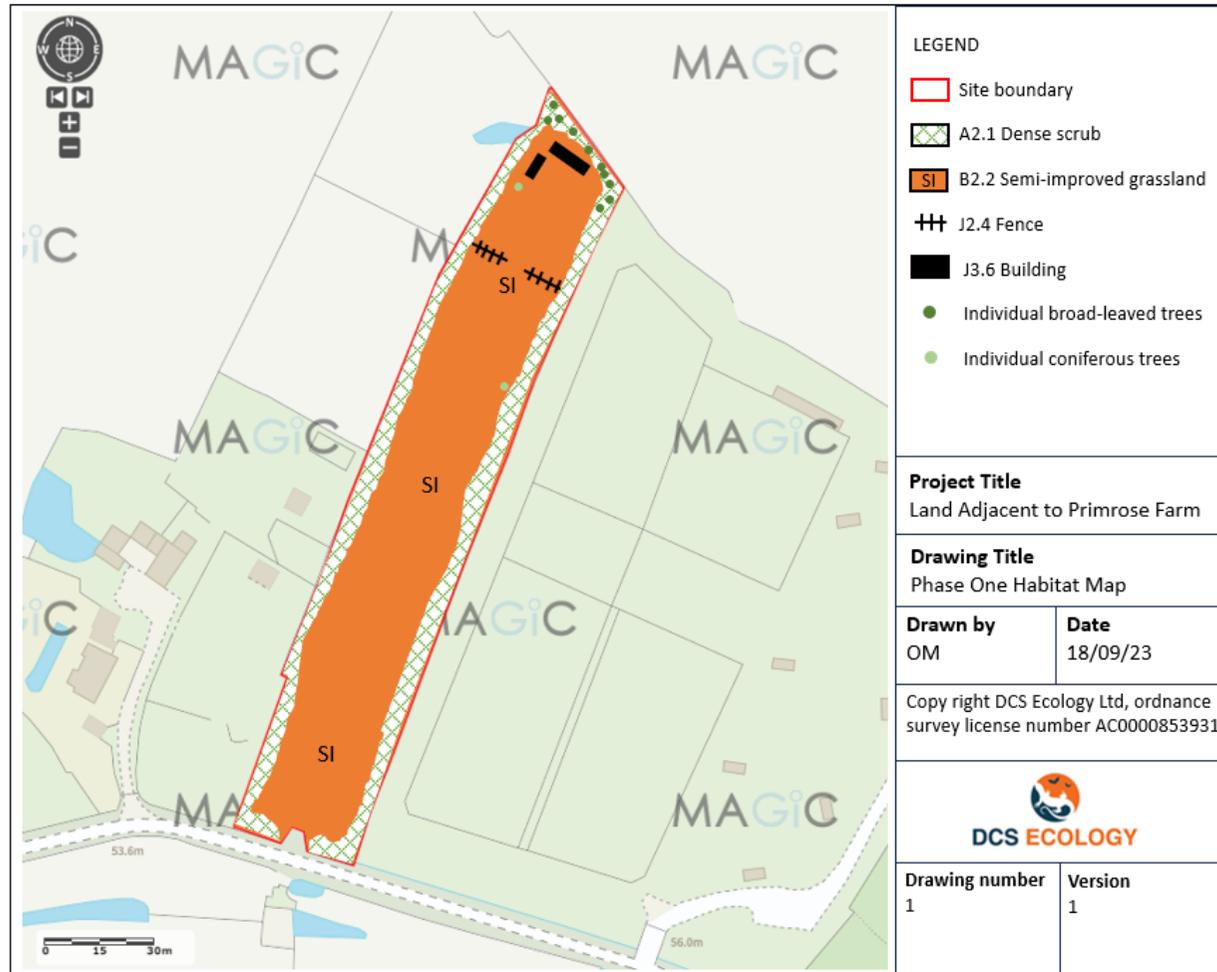
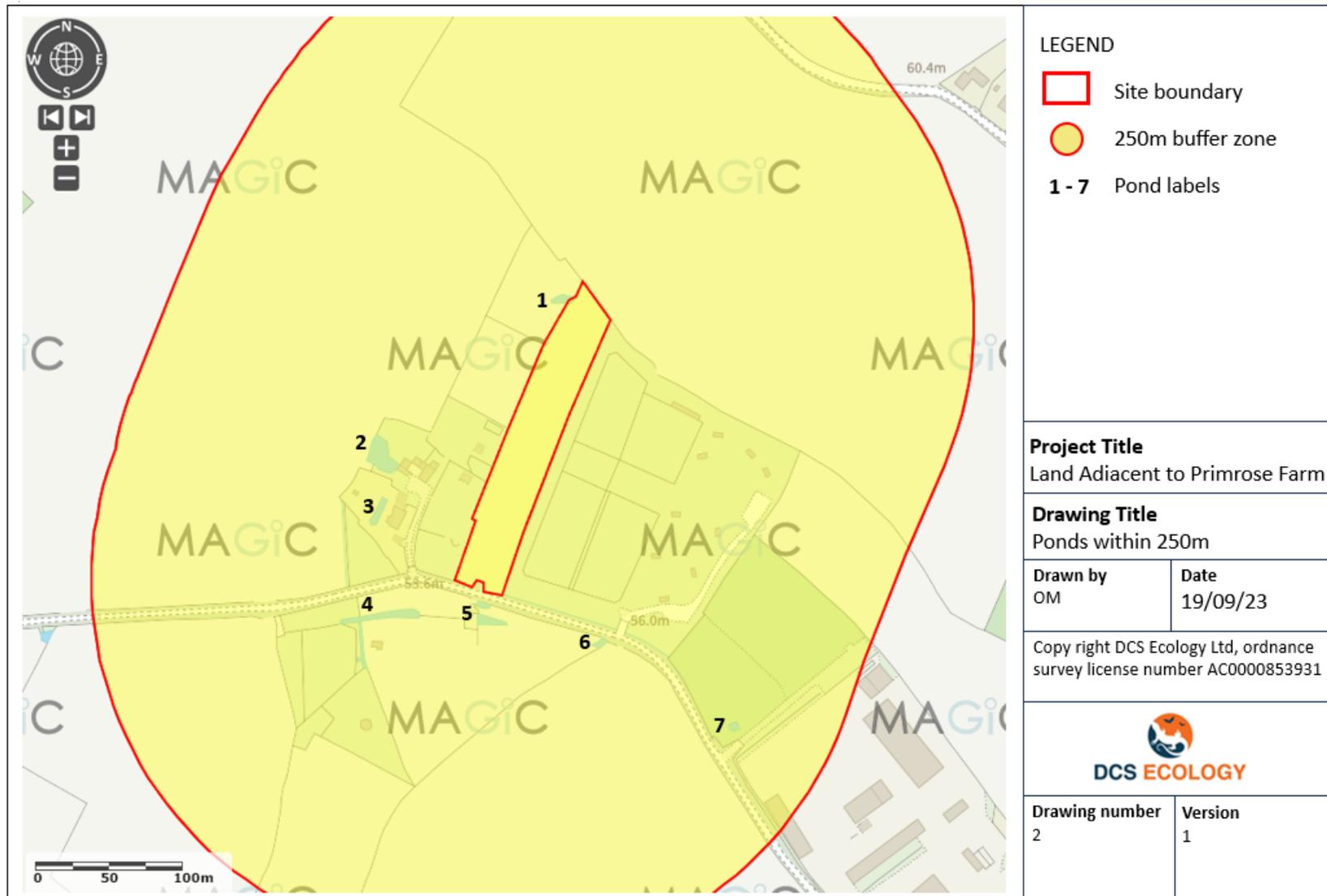


Figure 2: Phase 1 Habitat Map of Site. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931



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

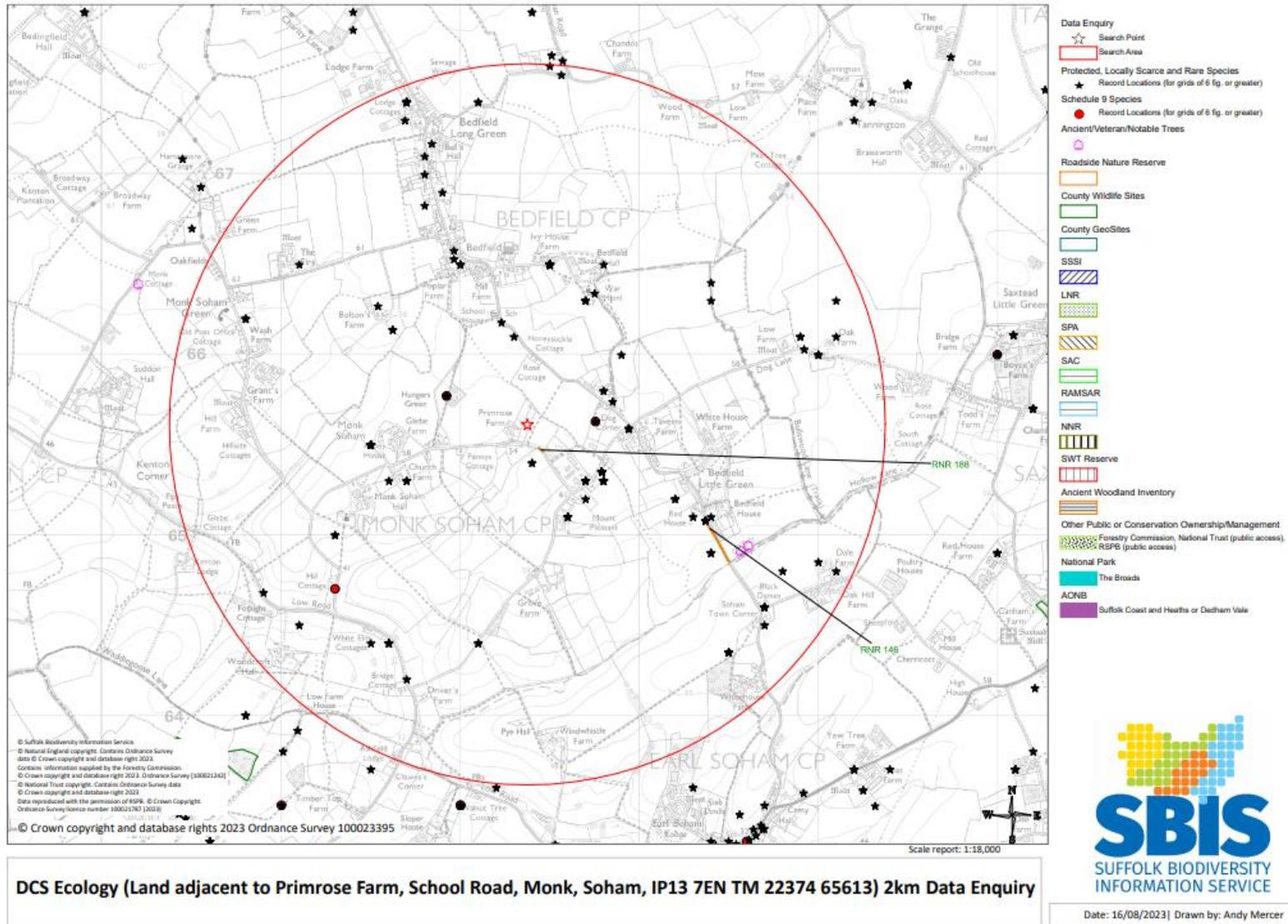


Figure 4: Protected species records, Statutory and Non-Statutory Designated Sites within 2km of the Site.

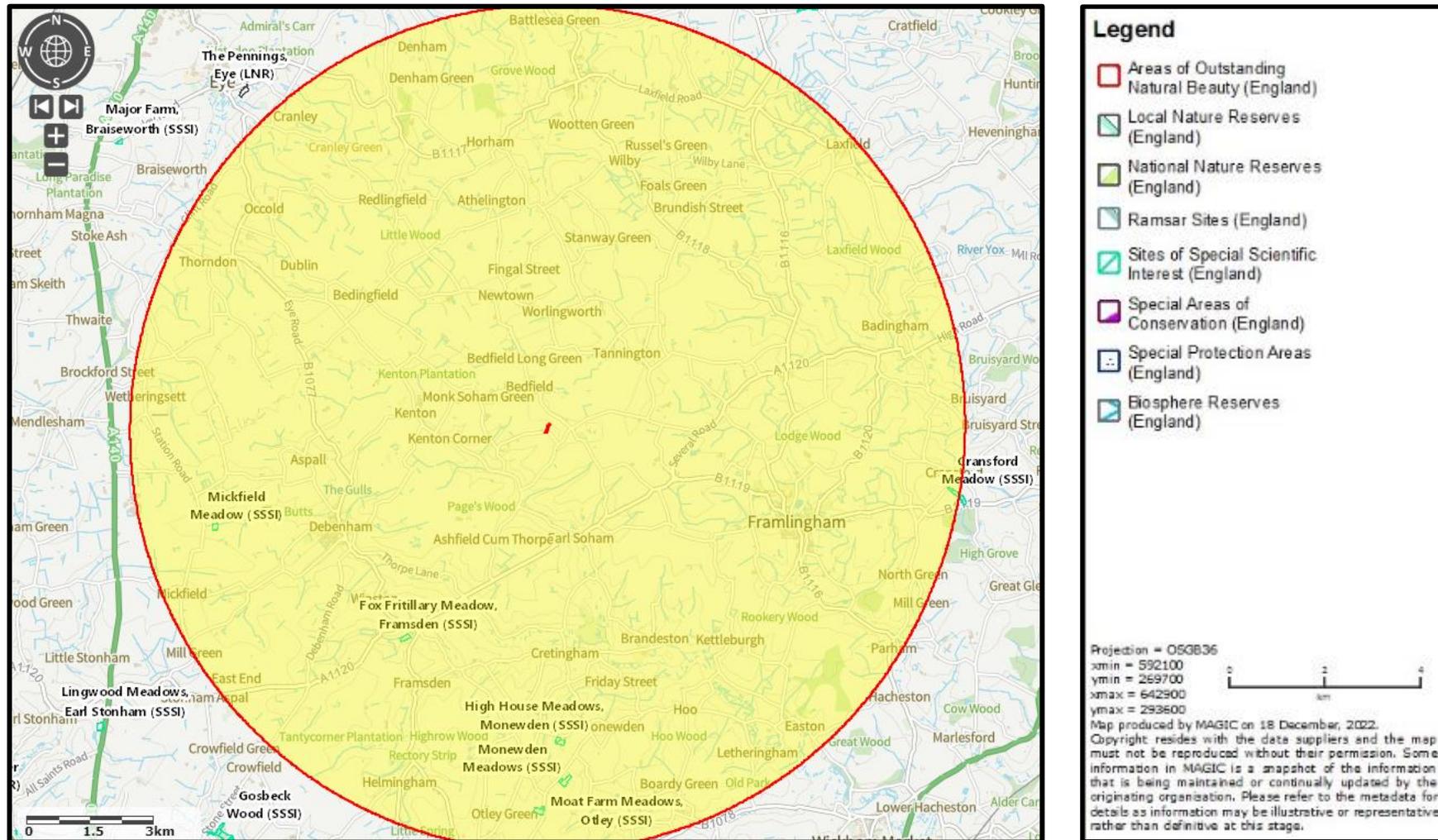


Figure 5: Statutory Conservation Sites within 10km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931

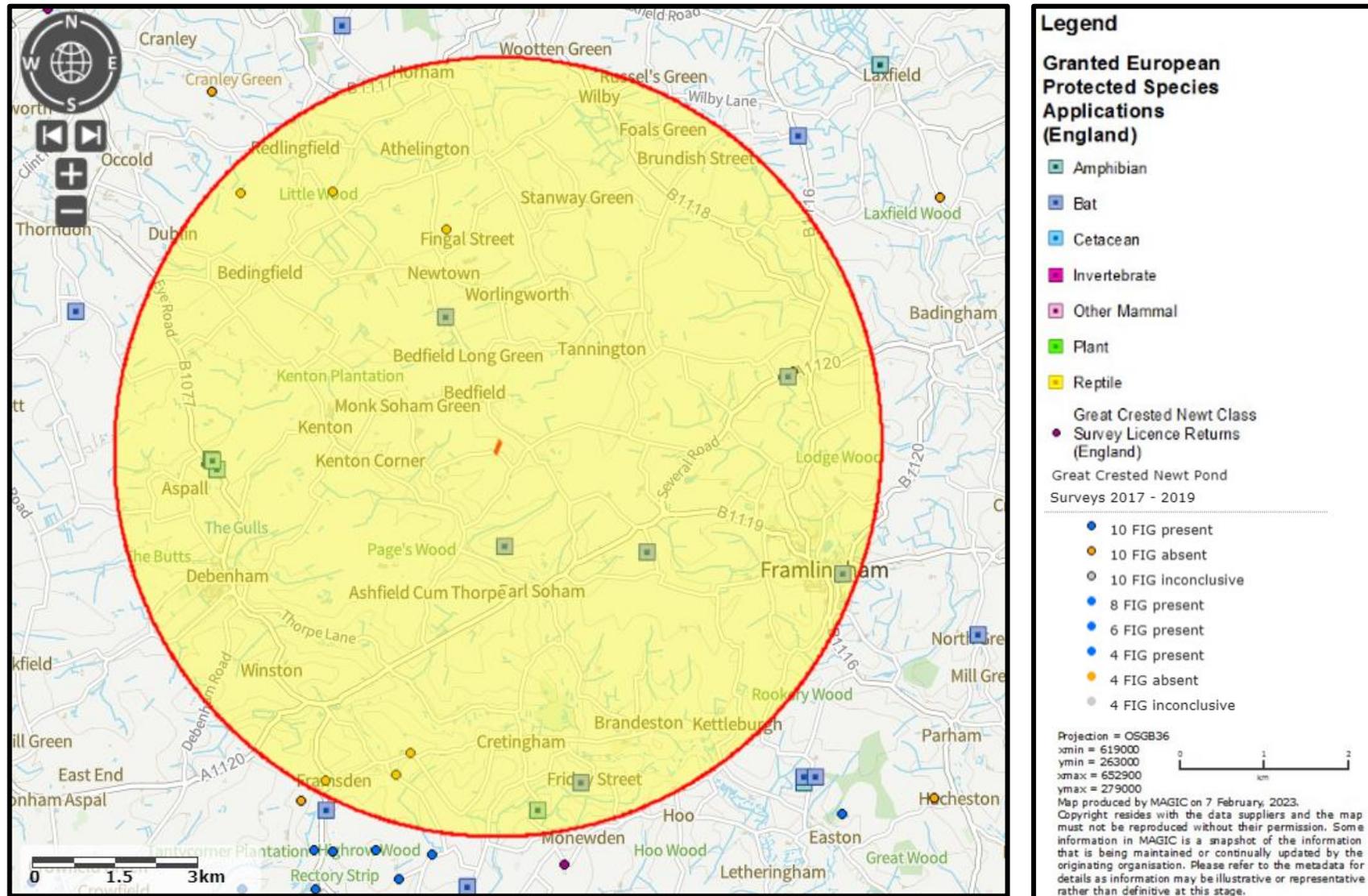


Figure 6: Protected species recorded on MAGIC within 7km of the Site. Based upon Ordnance Survey (c) Crown Copyright under licence AC0000853931



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

<b>ARGUK GCN HSI Calculator</b>					
	Pond Name	Pond 1	Pond 2	Pond 3	Pond 4
	Grid Ref	TM 2239 6571	TM 2226 6560	TM 2226 6556	TM 2226 6549
SI No	SI Description	SI Value	SI Value	SI Value	SI Value
1	Geographic location	0	1	1	1
2	Pond area	0	0.62	0.2	0.7
3	Pond permanence	0	0.9	0.5	0.9
4	Water quality	0	0.67	0.67	0.67
5	Shade	0	1	1	1
6	Water fowl effect	0	1	1	1
7	Fish presence	0	0.67	0.67	0.67
8	Pond Density	0	1	1	1
9	Terrestrial habitat	0	0.67	0.67	0.67
10	Macrophyte cover	0	0.6	0.7	0.45
<b>HSI Score</b>		<b>0.00</b>	<b>0.79</b>	<b>0.68</b>	<b>0.78</b>
Pond suitability (see to the right)		Not Suitable	Good	Average	Good

<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 (HSI) calculations.*

## Appendix V: Desk Study

**Table 9: 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>
S Skylark	<i>Alauda arvensis</i>	BoCC Red, Sect.41, UKBAP	2015
Kingfisher	<i>Alcedo atthis</i>	WCA1i	2013
Swift	<i>Apus apus</i>	BoCC Red	2018
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2015
Cuckoo	<i>Cuculus canorus</i>	BoCC Red, S41, UKBAP	2010
House Martin	<i>Delichon urbicum</i>	BoCC Red	2021
Yellow Hammer	<i>Emberiza citrinella</i>	BoCC Red, UKBAP; S41	2019
Reed Bunting	<i>Emberiza schoeniclus</i>	UKBAP; S41	2015
Merlin	<i>Falco columbarius</i>	BoCC Red, WCA1i	2009
Herring Gull	<i>Larus argentatus</i>	BoCC Red, UKBAP	2015
Linnet	<i>Linaria cannabina</i>	BoCC Red; UKBAP	2015
Red Kite	<i>Milvus milvus</i>	WCA1i	2009
Spotted flycatcher	<i>Muscicapa striata</i>	BoCC Red, UKBAP, S41	2010
House Sparrow	<i>Passer domesticus</i>	BoCC Red, UKBAP, S41	2022
Dunnock	<i>Prunella modularis</i>	UKBAP	2019
Bullfinch	<i>Pyrrhula pyrrhula</i>	UKBAP	2015
Woodcock	<i>Scolopax rusticola</i>	BoCC Red	2008
Turtle dove	<i>Streptopelia turtur</i>	BoCC Red, UKBAP, S41	2017
Starling	<i>Sternus vulgaris</i>	BoCC Red, UKBAP	2015
Redwing	<i>Turdus iliacus</i>	WCA1i	2015
Song thrush	<i>Turdus philomelos</i>	BoCC Red, UKBAP, S41	2019

Fieldfare	<i>Turdus pilaris</i>	BoCC Red, WCA1i	2015
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red	2015
Barn Owl	<i>Tyto alba</i>	WCA1i	2020
Goshawk	<i>Accipiter gentilis gentilis</i>	WCA1i	2020
Corn Bunting	<i>Emberiza calandra</i>	BoCC Red, UKBAP	2008
Brambling	<i>Fringilla montifringilla</i>	WCA1i	2011
Yellow Wagtail	<i>Motacilla flava</i>	BoCC Red, UKBAP	2015
Curlew	<i>Numenius arquata</i>	BoCC Red, UKBAP, S41	2015
Tree Sparrow	<i>Passer montanus</i>	BoCC Red, UKBAP, S41	2010
Black Redstart	<i>Phoenicurus ochruros</i>	WCA1i	2010
Green Sandpiper	<i>Tringa ochropus</i>	WCA1i	2010
Lapwing	<i>Vanellus vanellus</i>	BoCC Red, UKBAP, S41	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 10: 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>	It is an offence to: <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>

<p><b>Great Crested Newts</b></p>	<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>
<p><b>Widespread Reptiles</b></p>	<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>
<p><b>Birds</b></p>	<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 species at, on or near an active nest.</p>

## Appendix VII: Abbreviations

Table 11: List of abbreviations	
<b>BAP</b>	Biodiversity Action Plan
<b>BCT</b>	Bat Conservation Trust
<b>BoCC</b>	Birds of Conservation Concern
<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>BR</b>	Biosphere Reserves
<b>LPAs</b>	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>RAMs</b>	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 12: 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 examples designs.**

<b>Table 13: Compensation and enhancement Examples.</b>	
 A green, house-shaped bird box with a white front panel and a circular entrance hole.	 A brown, arched bat box with a dark interior and a small entrance slot at the bottom.
Photo 1: Woodstone Seville Box 28-32mm Hole.	Photo 2: Woodstone multichambered bat box
 A black bat box with a wooden base, mounted on a stone wall.	 A black bat rocket box mounted on a pole against a blue sky.
Photo 3: Eco-Kent bat box	Photo 4: Bat rocket box.