

Preliminary Ecological Appraisal (PEA)

Coddenham Hall Farm,
High Street, Coddenham,
IP6 9QY

for
Hilary Magnall

June 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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Hilary Magnall

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1 Executive Summary

1.1 Overview

DCS Ecology Ltd. was commissioned by Mrs Hilary Magnall to undertake a Preliminary Ecological Appraisal (PEA) of Coddendam Hall Farm, High Street, Coddendam, IP6 9QY (extension). Central grid reference TM13975429; hereafter referred to as 'the site'.

The Site is approximately 0.1 hectares (ha) and comprised of a residential dwelling (former Bakehouse known as 'the cottage') and associated garden (which includes shed, hardstanding, amenity grassland and ornamental planting).

The proposed planning application include an extension to Coddendam Hall Farm on the north-facing elevation and the re-alignment of the eastern driveway.

A PEA was undertaken on 07th June 2023 by Duncan Sweeting LCG ((NE great crested newt class survey licence WML-CL08; NE bat class survey licence WML-CL18; barn owl survey licence WML-CL29) of DCS Ecology Ltd.

1.2 Recommendations

Statutory Sites of European Significance

The Conservation of Habitats and Species Regulations 2010 (as amended) require a Habitats Regulations Assessment (HRA) to be undertaken for any plan or project that may have a 'likely significant effect' on a European site. As the proposed development on this Site are for improving the habitats and biodiversity present on-Site, there will be no significant effects on any European sites.

Flora and Habitats

As only a minimal amount of vegetation was due to be impacted by works, the majority of which was ornamental, further botanical survey is not considered necessary, nor were additional enhancement features.

Protected Species

Precautionary mitigation is recommended for amphibians, badgers, foraging / commuting bats, birds, hedgehogs, invertebrates, and numerous small mammal species, to achieve a neutral development impact for these species and species groups.

Badgers, Hedgehogs and Other Mammals

No further survey is necessary; however, as a precautionary measure, construction works should have implemented several precautionary measures, including the following:

- Safe storage of materials that may harm animals
- Covering excavations overnight to prevent animals falling in, or the provision of an escape ramp
- Security lighting to be set on short timers to avoid disturbing nocturnal animals using the Site and immediate surrounding area, and in alignment with guidelines set out for bats (see below).

For hedgehogs, any potential nesting habitat (discarded building materials, log piles, dense vegetation) should have been removed outside the hibernation period (which is November to March) or under supervision of an ecologist.

Bats

Sensitive lighting is recommended throughout the development 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 warm LED lamps (under 2700k), with hoods, cowls or shields, to prevent light spillage. More detailed advice can be provided from a suitable experienced bat ecologist.

Works should be undertaken during daylight hours, and artificial lighting should be avoided wherever possible. Where this is not possible (i.e., during certain construction activities), light spillage onto any linear features should be avoided using directional lighting (e.g., the use of hoods and/or cowls).

Birds

No bird surveys are required. Any construction work to the cottage or vegetation clearance should be carried out outside the breeding bird season (which runs from 1st March to 1st September) or following a nesting bird survey by a suitably experienced ecologist – to prevent infringing legislation which protects all nesting birds.

Invertebrates

The Site contained minimal 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 survey is not considered necessary.

Reptiles and Amphibians

Any refugia removal (such as log, branch, or rubble piles), or actions that will impact upon refugia, should be carried out outside of the hibernation period (Nov-Feb). If works cannot be timed outside of the brumation season, a suitably experienced and licenced ecologist should be on-Site to overlook works and remove any amphibians and reptiles that may be found.

2 Introduction

2.1 *Background*

DCS Ecology Ltd. was commissioned by Mrs Hilary Magnall to undertake a Preliminary Ecological Appraisal (PEA) of Coddendam Hall Farm High Street, Coddendam IP6 9QY (the Site; figure 1).

The proposed planning application is for the extension of the building on the northern elevation and associated works, including re-alignment of driveway towards to east to extend the garden area.

2.2 *Aim of Study*

This report provides a PEA of the Site following the completion of a desk study and Site visit. The aim of this survey was to:

Provide a description of existing habitat types

Determine the existence and location of any ecologically valuable areas

Identify the potential (or actual) presence of protected and/or notable species

Provide the legislative and/or policy protection afforded to any habitats present or any species assessed as likely to be associated with the Site

Recommend any further ecological surveys considered necessary to inform mitigation requirements for the planning application within the Site.

2.3 *Site Description*

The site is a dwelling and garden situated within a hamlet 630m east of Coddendam village centre, and 5.0km east of Needham Market, Mid Suffolk (grid reference TM13975429, see figure 1).

The site consists of a Grade II listed residential dwelling (the cottage) and garden area with amenity grassland and ornamental vegetation approximately 1,100 square metres (0.1ha). The official description of the building published by Historic England states that is a former Bakehouse, suspected to be built in the 16th Century. It is within a hamlet of approximately a dozen properties.

Horse grazed paddocks were present immediately east of site, while Coddendam Hall, a Grade II listed Farm house with amenity grassland, mature trees and driveway, is present immediately east.

The site is surrounded by built up infrastructure to the north and south, with the B1078 (High Street) to the south and hardstanding and residential buildings and stables immediately north.

Five ponds were identified within 250m of site, details of which can be found in Section 4. A tree line along the B1078

Habitats within a 2km radius were predominately arable fields, that had low biodiversity value for wildlife, with small pockets of deciduous woodland (including ancient woodland 1.1km north). Shrublands Estate, 1.9km south-west of site, was noted for its parkland and interconnected patches of woodland that make up most of the 116ha estate. Other BAP

Priority habitats highlighted by MAGIC (<https://magic.defra.gov.uk/MagicMap.aspx>) included traditional orchards and good quality semi-improved grassland.

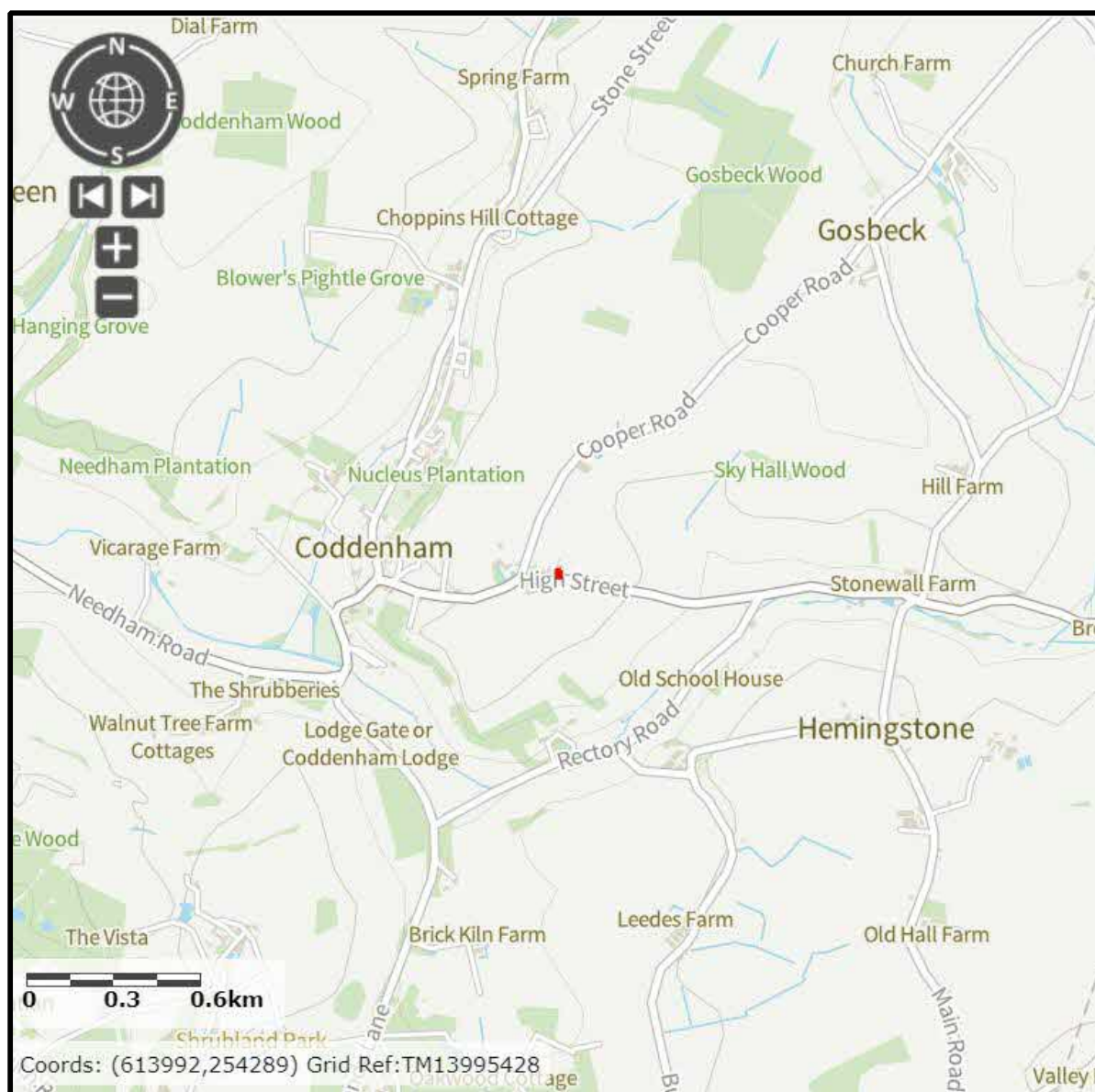


Figure 1. Site location outlined in red (1:25 000). © Crown copyright and database rights 2023. Ordnance Survey licence 100064616.

2.4 Relevant Legislation

Relevant wildlife and countryside legislation have been used along with planning policy guidance and the UK Biodiversity Framework to inform this assessment. Their context and applicability are explained as appropriate in the relevant sections of the report and additional details are presented in Appendix VI.

The key articles of relevance are:

The Wildlife and Countryside Act (WCA) 1981, as amended
The Protection of Badgers Act 1992
The Hedgerow Regulations 1997
The Countryside and Rights of Way (CRoW) Act 2000
The Natural Environment and Rural Communities (NERC) Act 2006
The Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations)
UK Post-2010 Biodiversity Framework (2011-2020)
National Planning Policy Framework (NPPF) 2021
Biodiversity 2020: A strategy for England's wildlife and ecosystem services
Suffolk Biodiversity Action Plan.

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 (WCA 1981, as amended; 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) 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.

3 Methodology

3.1 *Desk Study*

Data obtained from the Suffolk Biodiversity Information Service (SBIS) were used to conduct a standard data search for any information regarding statutory and non-statutory sites and records of protected and priority species within a 2km radius of the Site. The data were received on the 05th July 2023.

A 7km search radius for EPS licence records, GCN class licence returns, and GCN survey records was undertaken using Multi-Agency Geographic Information for the Countryside (MAGIC) Map (<http://www.natureonthemap.naturalengland.org.uk/>).

A 2km search radius was used to identify Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs) and County Wildlife Sites (CWSs) using MAGIC. This was extended to 10km for European Designated Sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites.

A 2 km search radius was used to identify ancient, veteran, and otherwise notable trees (which more potential roost features for bats on average than non-designated trees). Ponds within a 500m radius were searched for using MAGIC maps and OS maps.

The respective search radii were considered suitable for the scale and type of the proposed development.

3.2 *Field Survey*

A PEA was undertaken by Duncan Sweeting LCG (NE great crested newt class survey licence WML-CL08; NE bat class survey licence WML-CL18; barn owl survey licence WML-CL29) on 07th June in accordance with standard best practice methodology for Phase 1 Habitat Surveys set out by the JNCC (JNCC, 2010). Weather conditions during the survey were 0% cloud cover, BF level 1, and a temperature of 17.4 °C. The Site was traversed slowly by the surveyor, mapping habitats, and making notes on dominant flora and fauna. 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, and areas of the Site to be enhanced for increased biodiversity.

3.3 *Survey Limitations*

Internal areas of the cottage, could not be accessed for inspection during the survey. Due to the lack of signs of bats or potential roost features externally, this was not considered to be of high significance.

The official site boundary included half of a building along the northern perimeter of site. This was observed externally from the southern elevation but was not inspected internally. Under current proposed plans, however, the northern building is not impacted by works, and so this was not considered a significant limitation.

No other survey limitations were noted.

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. The species scoped out were water voles, harvest mice, and otters (although findings from the desk study are provided as additional information).

Maps illustrating the following data are included in Appendix IV.

4.1 Data Search

The data search for designated sites produced the following results:

No European conservation sites (AONB, SACs, SPAs, or Ramsar sites) within a 10 km radius of the Site:

One SSSI was located within a 2km radius of site:

Site name	Size and distance from site	District	Key habitats / species
GOSBECK WOOD SSSI	21.7 ha, 1.2 km N	Mid Suffolk	Ancient coppiced woodland with several uncommon plant species.
CITATION (https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1004201.pdf)			
Reasons for Notification: Gosbeck Wood is an ancient coppice-with-standards site with small additions of well-established secondary woodland. It lies on a plateau of calcareous boulder clay soils with pockets of sand. The wood contains a complex mosaic of stand types and is a good example of the type of ancient woodlands found in central Suffolk. The ground flora is typical of woods of this type and locality, and includes several uncommon species. The main tree communities present are wet ash-maple woodland, pedunculate oak-hazel-ash woodland and lowland hazel-pedunculate oak woodland. There is also a small area of pedunculate oak-hornbeam woodland and numerous clones of Aspen <i>Populus tremula</i> . Giant coppice stools are evidence of a long tradition of coppice management which has recently been re-introduced after a period of neglect. Dog’s Mercury <i>M. ercurialis perennis</i> is generally dominant but Tufted Hair-grass <i>Deschampsia caespitosa</i> , Creeping Soft-grass <i>Holcus mollis</i> and Bramble <i>Rubus</i> spp are locally abundant as is Ivy <i>Hedera helix</i> in the area of secondary woodland. Notable species include Spurge Laurel <i>Daphne laureola</i> , Wood Spurge <i>Euphorbia amygdaloides</i> , Herb Paris <i>Paris quadrifolia</i> and Hairy Woodrush <i>Luzula pilosa</i> . The woodland rides are at present narrow and overshadowed, but Meadowsweet <i>Filipendula ulmaria</i> and a few other grassland species persist on them.			

Nine CWS Sites were located within a 2km radius of site:

Site name	Size and distance from site	CWS number	Key habitats / species
SHRUBLAND PAF CODDENHAM	137.65 ha, 1.8 km W	Mid Suffolk 12	Parkland and woodland. Contains rare invertebrate species.
Shrubland Park is situated to the east of the A14, south west of the village of Coddenham. A large proportion of the park has been planted with mixed woodland. The formal plantations contain a range			

<p>of woody species, and shrubs have been planted. A number of glades and rides which cross the wood support a diverse flora. Some sections are colonised by plants typically associated with acid grassland. Other more chalky areas support calcicolous species such as pyramidal orchid, wild basil and old man's-beard. A good range of woodland birds has been observed in the woods. Shrubland Park is also of considerable importance for invertebrate conservation. It has been described in Natural England's Invertebrate Site Register as an outstanding site for beetles associated with a dead wood habitat. Three Red Data Book (nationally rare) insect species and a number of nationally notable species have been recorded in the park.</p>			
OAK WOOD / BROOMWALK COVERT BARHAM	27.64 ha, 1.9km S	Mid Suffolk 13	Ancient woodland
<p>Oak Wood and Broomwalk Covert are listed in English Nature's Ancient Woodland Inventory. This extensive area of woodland is situated north of Barham and is separated from the adjacent woodland of Shrubland Park by Sandy Lane. Some remnants of the original woodland can still be found. Cherry, field maple, hazel coppice, crab apple and small-leaved lime are present in small quantities, the latter species being strongly associated with ancient woods. An unusual feature which is evidence of the wood's antiquity is a double bank and ditch, thought to be medieval in origin and situated on the western side of the site.</p>			
BULLS WOOD BARHAM	4.66 ha, 1.8km S	Mid Suffolk 14	Ancient woodland.
<p>Bull's Wood is located on a gently sloping plateau and lies adjacent to another large area of woodland which is part of the Shrubland Estate. It is an ancient woodland and listed in the Suffolk Ancient Woodland Inventory, compiled by English Nature. A number of very old trees and stumps are signs of the medieval status of this wood. A large proportion of Bull's Wood has been densely planted with conifers to the detriment of the native flora and fauna. Semi-natural vegetation is therefore restricted to the woodland margins. Field maple, wild cherry, ash and small-leaved lime are present here. The ground flora consists of dog's mercury and bluebell with some patches of early-purple orchid and primrose. A single main ride runs from east to west in the wood and is well vegetated with grass. Bull's Wood is a neglected woodland apart from some small scale felling in one compartment.</p>			
MANOR FARM MEADOWS CODDENHAM	8.08 ha, 760m W	Mid Suffolk 142	Low lying meadows and species rich hedges.
<p>This County Wildlife Site is situated on the southern edge of the village of Coddendam, to the west of the parish church. It consists of four low-lying meadows which are separated by dense species-rich hedges. A public footpath skirts the western edge of the site. The southernmost meadow is characterised by four mature oaks. The northern section of the meadow which is the largest of the four, is particularly low-lying and prone to flooding during times of heavy rain. It is dominated by lesser pond sedge. The remainder of this meadow and the other meadows support a diverse plant community consisting of species characteristic of unimproved wet grassland. Creeping Jenny, yellow-rattle and brown sedge occur throughout the wetter parts of the site. The drier areas support a different but equally diverse plant community including a number of species typically found in unimproved grassland for example, pignut, cowslip and hoary plantain. Two meadows are heavily grazed by cattle, the remaining two are cut for hay in June. The botanical value of these meadows would be increased by a hay cut taken later in the summer and in a rotation of cattle grazing to prevent overgrazing and poaching</p>			
BORLEY'S WOOD BARHAM	4.09 ha, 2.0km SE	Mid Suffolk 16	Ancient woodland
<p>Borley's Wood is one of a number of ancient woodlands in the parish of Barham which are listed in Natural England's Ancient Woodland Inventory. It is enclosed in part by a mixed hedge and is surrounded by a ditch and bank. The wood has a typical coppice with standards structure, ash and field maple coppice together with scattered oak standards. Sweet chestnut and aspen are also present with a hazel and hawthorn understorey. There are a number of wet and shady rides across the wood and an access track in the south. They support an interesting flora including a number of wetland species, for example creeping-Jenny and ragged-robin. Hairy St John's-wort is amongst a number of scarce ancient woodland indicator plants which have been recorded in the wood.</p>			

CODDENHAM WOOD CODDENHAM	6.60 ha, 1.8km NW	Mid Suffolk 40	Ancient woodland
<p>Coddenham Wood is located to the north west of Coddenham and is listed in the Suffolk Ancient Woodland Inventory compiled by Natural England. It is one of a number of medieval woods situated to the north of the village of Coddenham. It is actively managed coppice with standards. There is good structural diversity and hedgerows to the south connecting with ancient woods Long Stropps and Blower's Pightle Grove; both County Wildlife Sites. Studies carried out by the historical botanist Dr. Oliver Rackham suggest that Coddenham Wood existed in the seventeenth century and possibly originated in the sixteenth century. A map of 1722 shows Coddenham Wood exactly as now but then named Priory Wood. The ground is densely vegetated in places and the rides are also well vegetated. Yellow pimpernel and hairy St John's-wort are present.</p>			
BLOWER'S PIGHTLE GROVE CODDENHAM	1.50 ha, 1.2km NW	Mid Suffolk 42	Ancient Woodland
<p>Blower's Pightle Grove is a small semi-natural ancient woodland of coppice and standards surrounded by an ancient boundary ditch. It is located in the north of Coddenham Parish. It is one of one of several ancient woods in the parish. It is actively managed coppice woodland and there is good structural diversity. There is also good species rich hedgerow connectivity in all directions including connections to other ancient woods such as Long Stropps and Coddenham Wood which are also designated County Wildlife Sites. The northern and southern half of the woods are being coppiced on rotation providing good structural diversity. The ground flora of the wood is reasonably varied and includes hairy St John's-wort, a plant strongly associated with ancient woods. A considerable amount of stacked timber provides additional habitat for dead wood invertebrates.</p>			
LONG STROPS CODDENHAM	1.12 ha, 1.4km NW	Mid Suffolk 43	Ancient Woodland
<p>Long Stropps is one of several ancient woodlands in the parish of Coddenham. The boundaries of the wood are a woodbank and ditch; a typical feature of medieval woods. Another interesting historical feature of Long Stropps is the number of old coppiced stools which are present. Long Stropps is a typical coppice with standards woodland consisting of ash, field maple and hazel coppice. Dog's mercury is the dominant herb in the ground flora interspersed with patches of ivy, bluebell and bramble. Despite its small size, Long Stropps supports several scarce plants which are indicators of ancient woodland including a wild service tree. There is good hedgerow connectivity to the north with Coddenham Wood and to the south with Blower's Pightle Grove; both ancient woods and County Wildlife Sites.</p>			
CODDENHAM CHURCHYARD CODDENHAM	0.55 ha, 650m W	Mid Suffolk 44	Unimproved herb-rich grassland
<p>St. Mary's Church in Coddenham is on Church Road which runs through the village of Coddenham. The Churchyard is a good example of an unimproved herb-rich grassland. The majority of the churchyard is managed as a conservation area. A wide variety of plants have been recorded here, many of which reflect the underlying chalk geology. Among the species rich sward are numerous pyramidal orchids with small scabious, hoary plantain, burnet saxifrage and quaking grass.</p>			

No other local or national conservation sites (such as NNRs or LNRs) within 2km of site.

European Protected Species within a 7 km radius:

Table 1. MAGIC Map European Protected Species (EPS) licence applications data within a 7 km radius of the Site. See map in Appendix IV (data extracted on 04/06/23).

EPS Reference	Species *	Grid Reference	Location
2020-45334-EPS-MIT	BLE, C-PIP, S-PIP	TM19155897	Framsden
2019-41034-EPS-MIT	BARB, BLE, C-PIP, S-PIP	TM11775537	Hanging Grove
2016-25709-EPS-MIT	C-PIP, S-PIP	TM09345402	Needham Mkt
2019-42539-EPS-MIT	BARB, BLE, C-PIP, NATT, S-PIP	TM18334958	Witnesham
EPSM2012-4573	C-PIP; BLE	TM15744825	Akenham
EPSM2009-611	Great Crested Newt	TM12355339	Coddendam
EPSM2009-1418	Great Crested Newt	TM10955008	Claypit grove
2017-31271-EPS-MIT-1	Great Crested Newt	TM11884939	Lt Blakenham
2019-38884-EPS-MIT	Great Crested Newt	TM15874786	Whitton

*For species abbreviations, please see appendix

There was four GCN licence applications; the nearest was 1.7 km south west of the Site (TM12355339) and allowed the destruction of a resting place. There were 37 GCN class survey licence returns and 12 Great Crested Newt Pond Survey, 9 of which returned positive for GCN. The closest was a mitigation GCN licence application (see above).

There were five bat licence applications, involving five bat species, including Barbastelle, brown long-eared, soprano pipistrelle, common pipistrelle and Natterers; the nearest licence s were 2.4 km north west of site (2019-41034-EPS-MIT) and allowed destruction of a resting place of all mentioned species except Natterers. The survey identified a maternity roost for all mentioned species 6.4km east of site.

Woodland Trust Ancient Tree Inventory (2 km radius)

The Woodland trust Ancient Tree Inventory search produced sixty-nine records of veteran, ancient and notable trees within a 2km radius of site. Seven of these were situated within 1km of site, 00m of site have been recorded below

Table 2. Ancient, notable. and veteran trees within a 1 km radius of the Site.

Species	Distance from Site (km)	Direction
Beech, common (<i>Fagus Sylvatica</i>)	0.9	West
Oak, pedunculate (<i>Quercus robur</i>)	1.0	South

Oak, pedunculate (<i>Quercus robur</i>)	0.9	South-south-west
Plane, London (<i>Platanus x hispanica</i>)	0.8	South south-west
Chestnut, horse (<i>Aesculus hippocastanum</i>)	0.9	West
Oak, pedunculate (<i>Quercus robur</i>)	0.9	West
Lime, common (<i>Tilia x europaea</i>)	1.0	West

For tree locations, please see Figure 7 in Appendix IV.

4.2 Field Survey Results

The site consisted of a residential dwelling (originally a Bakehouse) referred to as the Cottage. It is a single storey building consisting of plastered walls, pan and ridge tile roofing and gabled ends.

It is surrounded by a hardstanding driveway to the west, narrow hardstanding alleyway and driveway to north, small garden area with shed, cultivated and ornamental planting and cork screw willow tree to north east, small parking area to east and a second garden area with amenity grassland, ornamental shrubs and small trees to south.

A map showing the habitat types on Site can be seen in Appendix IV.

4.3 Protected and Priority Species

Flora

The SBIS 2km radius data returned 36 records of 20 protected flowering plant species. These include Sulphur Clover (*Trifolium ochroleucon*), Shepherd's Needle (*Scandix pecten-veneris*), Chicory (*Cichorium intybus*), and Dwarf Spurge (*Euphorbia exigua*) which are listed as 'Vulnerable' on the England Red List, Shepherd's Needle is also critically endangered on the Global Red List. Bluebell (*Hyacinthoides non-scripta*), listed on Schedule 8 of the Wildlife and Countryside Act (1981 (as amended)), was recorded in 2022. Several orchid species were highlighted within the search, including the common spotted orchid (*Dactylorhiza fuchsii*), pyramidal orchid (*Anacamptis pyramidalis*), and bee orchid (*Ophrys apifera*). The majority of plant species were recorded using 4 figure grid references (which cover 1km² blocks), and exact positions of individual records in relation to site could not be obtained.

Flora onsite was predominately ornamental shrubs and cultivated vegetables for human consumption, including rhubarb (*Rheum x hybridum*), runner beans (*Phaseolus coccineus*) and spring onion (*Allium* sp.) within a raised vegetable patch. Potted ornamental plants and hardstanding bordered the northern elevation of the cottage. A mixture of fencing, hardstanding and amenity grassland created poor connectivity to surrounding habitats.

Trees on and adjacent to site included corkscrew willow (*Salix matsudana*) in the eastern garden area and silver birch trees (*Betula pendula*) and a *Prunus* tree in the southern garden.

No uncommon, rare, or protected plant species were recorded during the survey. The total vegetation area was minimal, isolated and offered poor foraging and sheltering opportunities for invertebrates and other fauna.

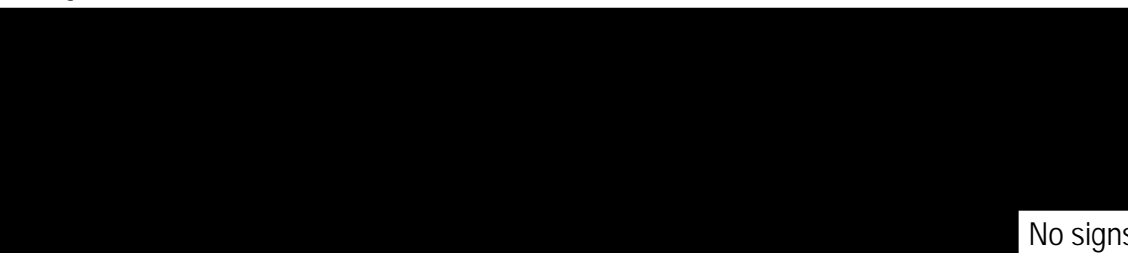
A full list of plant species identified during the survey can be found in Appendix III.

Fungi

Two records of Pepper pot (*Myriostoma coliforme*) were located within a 2km radius of site. Pepper pot fungi are protected under Section 41 of the NERC Act 2006 and under the UK Biodiversity Action Plan (UKBAP). However, both records were located over a kilometre south-east of site in 2006, and so due to the location and age of the records, it was not considered to be significant to site.

No rare or protected fungi were seen onsite during the visit.

Badgers



No signs of badgers (such as snuffle holes, latrines, or paw prints were found during the survey).

Bats

The site comprised of an actively used residential building (the cottage), hardstanding driveway and garden area with several trees. None of the trees inspected (corkscrew willow and adjacent birch and *Prunus* in the southern garden) had features such as crevices, tear-outs, knot holes or woodpecker holes that could be used by roosting bats. The building 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, none of which were found during the survey.

The cottage had **negligible roost potential** due to the following reasons:

The northern room and kitchens had a sealed roof with no loft space for bats. The interior was being actively used and was unsuitable for bats.

The roof was re-roofed and re-leaded in 2004 with a breathable roofing membrane (BRM). Studies have indicated that BRMs lower the suitability of buildings for bats (Waring et al., 2012).

Aside from a small number of minor potential roost features (lifted pan tiles) there were few crevices / voids / openings present to provide suitable roosting

opportunities for bats. Many of the roof tiles along the eaves had eaves comb filler (plastic mesh grids) preventing the entry of bats, and the eaves and fascias were well sealed.

No signs of bats (droppings, urine stains, feeding remains etc.) were found during the survey

A shed present onsite was concluded to have **negligible bat roost potential** due to lack of potential roost features, poor insulation and lack of entry points for bats.

Garden containing amenity grassland, and shrub onsite to site had moderate potential to be used by commuting and foraging bats, which could potentially be impacted by light pollution from proposed works if no lighting plans are implemented. A small area of improved grassland will be lost by the alternation of a current driveway (driveway is being shifted several metres east). However, suitable foraging habitat to be lost as part of works, is minimal, and as the garden area is to be extended onto the current driveway, net vegetation loss (foraging habitat) will be net negligible loss / neutral for foraging and commuting bats.

SBIS search returned 6 records of unidentified bats (Chiroptera), including a maternity roost c. 770m west of site, four records of common pipistrelle (*Pipistrellus pipistrellus*) and five records of brown long-eared bats (*Plecotus auritus*) including maternity roosts 1.4km north and 770m west of site (same location as Chiroptera maternity roost above). Twelve of the fifteen records identified roosts (rather than foraging or commuting bats).

The closest record (TM132542) was of a brown long-eared bat maternity roost, 770m west of site on the western boundary of Coddendam village.

Birds

SBIS returned 540 records of 89 bird species (see appendix VIII). These included BoCC red listed, SPI and Local Biodiversity Action Plan (LBAP) species.

Habitats suitable for birds include mature trees (good nesting opportunities), shrubs (good foraging and nesting opportunities), improved grassland, amenity grassland and log piles (the latter three provide foraging opportunities).

One inactive bird nest was onsite, under the eaves of the surveyed building (the cottage) and further nesting opportunities were present among shrubs and trees onsite.

The building was well-sealed and had no potential for barn owls (*Tyto alba*).

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

Hazel Dormice

SBIS did not return any records of hazel dormice (*Muscardinus avellanarius*).

Ancient woodland was identified within a 2km radius, none of which were within 1km of site nor had strong connectivity to site.

The Site contained no hazel trees (the preferred food source of hazel dormice) and lacked a sufficient habitat (i.e. dense woodland understory or connected shrub / hedgerow).

No evidence of hazel dormice was identified on the Site during the survey.

Great Crested Newts

The desk study returned a single record of GCN within 2km of site: located 1.2km north - west of site, along a hedgerow south of a woodland known as Pightle Grove on field kink/corner edge. Several roads and a barrier of housing 100m in width lay between this record and site.

Habitats on Site had sub-optimal sheltering and hibernating opportunities GCN and other amphibians during terrestrial phases (such as a small branch and log pile and small gaps underneath the shed), and small areas of ornamental shrub. However, the much of the vegetation was either cut short (amenity and improved grassland) or was in potting and raised beds, allowing for few opportunities for sheltering and foraging GCN. In addition, the habitat was relatively isolated from nearby ponds, as driveways were present along the eastern and western edges of site, a road along the southern border of site, and a building along the northern border of site.

Five bodies of standing water were identified within a 250 m radius of the Site (see Appendix IV for a map of locations). These have been labelled as the following:

Pond 1- 70m west south-west of site. The B1078 road lies between this pond and site. Small areas of suitable terrestrial habitat, particularly wooded gardens are present west of and adjacent to ponds 1, 2 and 3, which was in the opposite direction of site. A succession of multiple driveways, fences and solid brick walls between ponds 1, 2 and 3 and site presented additional obstacles for terrestrial GCN.

Pond 2- 110m west of site. Bordered by B1078 to the south and a minor road (Cooper Road) to the east, which create passive barriers between pond 2 and site.

Pond 3- 130m west of site. In close proximity to Pond 2.

Pond 4- 150m North-east of site. Separated from site by an expanse of short horse-grazed pasture (GCN are prone to predation when exposed and are unlikely to travel across habitats such as hardstanding or short grass for extended periods). A hedgerow bordering the pasture field could be used by GCN dispersing from the pond, but this indirect route extends the travel length to 270m, and is intercepted by the building to the north of site.

Pond 5- 220m North-west of site. Separated from site by an expanse of short horse-grazed pasture bordered by hedgerows (see comment about pond 4).

Hedgehogs

SBIS returned 32 records of hedgehogs (*Erinaceus europaeus*) within 2km of site; the closest record was 230m east of site adjacent to the B1078 Road. The majority of records were found along roadways, either as roadkill or live crossings.

The Site had small areas suitable for hedgehogs, including a small brash / log pile. Much of site was either hardstanding or surrounded by wooden fencing that did not allow access for hedgehogs, although habitats immediately surrounding site offered potential foraging opportunities. As the potential loss of habitat was limited to hardstanding, short amenity and improved grassland and several ornamental plants, the proposed plans are highly unlikely to impact local hedgehog populations.

No evidence of hedgehogs, including droppings, runs, nests and skins, was found on Site.

Invertebrates

SBIS returned 35 records of 14 species of invertebrate. These include records of Stag Beetle (*Lucanus cervus*), White Admiral (*Limenitis camilla*) and White-letter Hairstreak (*Satyrrium w-album*), all protected under Section 41 of the NERC Act 2006 and Section 5 / 9.5a of the Wildlife and Countryside Act 1981.

Habitats surrounding the buildings, such as scrub, grassland and trees were suitable for supporting small assemblages of common and rare/protected terrestrial invertebrates; however, no rare invertebrates or habitats likely to support rare invertebrates were found onsite, and further invertebrate surveys were not considered necessary.

Reptiles

One record of slowworm (*Anguis fragilis*) was returned within a garden 550m south-west of site.

Habitats onsite were considered unsuitable for reptiles, due to the lack of foraging, sheltering and breeding opportunities such as compost heaps, long grass, scrub, or ponds. A timber stack and small brash and log pile were noted, but surrounding hardstanding and fencing acted as a barrier and reptiles were unlikely to be utilising these features.

No evidence of reptiles, including droppings and sloughs, was found on-Site during the survey.

Other Protected Species

SBIS returned a single record of European otters (*Lutra lutra*) 1.98km west of site along a tributary of the river Gipping and of European water vole (*Arvicola amphibius*) 1.1km east of site along the same tributary further upstream. The tributary flows eastwards up to within 550m of site, but this is a sufficient distance from site to not be of concern and regardless, the site lacks sufficient habitat for these species.

There were also 15 records of brown hare and 9 records of harvest mice within a 2km search radius, neither of which were at risk of being impacted by site activities.

5 Potential Impacts and Biodiversity Enhancement Recommendations

5.1 *Statutory Designated Areas*

The impact of proposed activities on SSSIs, SACs, SPAs and RAMSAR sites 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 IRZ of Gosbeck Wood SSSI, the nearest of which is 1.2km north of site. An initial assessment using government ArcGIS dataset records concluded that the application falls into band 6 which predicts that development proposals for residential housing developments of 50 units or more will require a HRA. As the proposal is a small-scale development consisting of an extension to a single building and associated works, the risk of impact to designated sites is low and therefore is unlikely to require a HRA or other pre-development consultation with Natural England regarding likely impacts on these designated areas.

5.2 *Flora and Habitats*

The proposed development includes the extension of a cottage and associated works. This will result in the loss of existing niches within the structures and likely the removal/ replacement of shrubs within the courtyard (a list plant species recorded onsite can be found in Appendix II). The lost habitat is not listed within the Section 41 of the NERC Act 2006 as being of principle important to the conservation of biodiversity within the UK .

Under current plans mature trees onsite are not to be impacted by works, and will not require further survey effort. However, if heavy machinery is to be within close proximity of retained trees, it is advisable to establish a root protection zone (RPZ) that excludes heavy machinery that may pose damage to the tree’s root system.

If plans are altered to include the felling of trees as part of works, then a tree felling licence may be required, depending on how much timber is to be felled. 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 (m³) of growing trees are to be felled. Any trees to be retained should be suitably protected from works, including establishing

As only a minimal amount of vegetation was due to be impacted by works, further botanical survey is not considered necessary, nor were additional enhancement features; however, any mature trees within close proximity of the Site should be suitably protected from harm following guidance set out in BS5837 (2012).

5.3 Protected species

Badgers

Habitats on the Site were considered unsuitable for badger foraging; no badger signs were observed during this survey, and no records were returned within the data search.

No further survey is necessary; however, as a precautionary measure, construction works should have implemented several precautionary measures, including the following:

Safe storage of materials that may harm badgers and other animals

Covering excavations overnight to prevent animals falling in, or the provision of an escape ramp

Security lighting to be set on short timers to avoid disturbing nocturnal animals using the Site and immediate surrounding area, and in alignment with guidelines set out for bats (see below).

Bats

Structures onsite assessed for roost suitability (the cottage and the shed) was considered to have negligible potential for supporting roosting bats, **and no further survey is necessary.**

Although habitats onsite were predominately hardstanding and a building, the garden area included mature trees and ornamental shrubs that did offer some foraging and commuting opportunities for bats. As a precautionary measure, sensitive lighting is recommended throughout the development 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 single disused bird nest was identified on site, and potential nesting opportunities were present in vegetation on and adjacent to site.

The SBIS 2 km data search also returned numerous species for which the habitat on Site is suitable for foraging, sheltering, and breeding (Appendix VIII).

No bird surveys are required. Any building demolition or clearance should be carried out outside the breeding bird season (which runs from March to September) or following a nesting bird survey by a suitably experienced ecologist – to prevent infringing legislation which protects all nesting birds.

If bird nests are found onsite, temporary exclusion zones will be set up to be placed around them until such time that the dependent young have fledged and left the area. The distance of which would depend on the species recorded. The peak bird breeding season extends between March and August (inclusive of these months), although active nests can theoretically be encountered at any time of the year.

Great Crested Newts

Several suboptimal features were suitable for sheltering and foraging great crested newt onsite, but GCN were highly unlikely to be present due to the site's isolative surrounding habitats. No GCN were identified on Site during the survey.

Although potential breeding ponds were present within 250m of Site, the habitats within itself the Site provided only minimal foraging and sheltering opportunities for amphibians during terrestrial phases, and were isolated from surrounding ponds by hardstanding, brick and wooden fencing, and short (both amenity and improved) grass.

As the site was considered unsuitable for GCN, and the proposed development size was small (Approx. 0.01ha), **no surveys will be required.**

Hazel Dormice

No hazel dormice were identified on Site during the survey, and no SBIS records were returned. No further survey effort was considered necessary.

Hedgehogs

Further survey is not considered necessary, however, as there are nearby records of this species, and the adjacent habitats were likely suitable, **any potential nesting habitat (building materials that accumulate during construction, log piles, dense vegetation) should have been 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 at the Site boundaries allows movement of hedgehogs throughout the Site post-development between garden areas and adjacent habitats. This can be either entry holes within the fencing / walls at ground level approx. 15x15cm in size, or alternative means of access, such as if open or raised gateways are present.

Invertebrates

The Site contained minimal 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 survey is not considered necessary.**

Reptiles

No signs of reptiles were seen during the survey, and no records were returned in the SBIS 2 km data search. Due to the habitat types present, shaded conditions, the size of site and relative isolation from habitats with greater suitability for reptiles, the risk to reptiles is considered minimal and **no further survey is required.**

Other Protected Species

No further survey is required (due to habitat types being lost and overall size) would not be significantly impacted any protected species.

6 Enhancement

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)¹

“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.

Enhancement

Bat boxes, such as Kent bat boxes and / or bat tiles would increase roosting opportunities for bats within the site. Exact models and locations should be determined by a suitable experienced ecologist.

New and replacement plantings within the proposed development should constitute at least 50% native species by area. Ornamental species should include a preponderance of species of known value to wildlife, such as fruiting species, and of species providing a nectar source which are attractive to insects. All planting should be structurally diverse, with areas of dense scrub as well as open areas.

At least two **bird boxes** are recommended, such as FSC Nest Box or WoodStone Seville Box, erected on either the gable ends of the cow shed or nearby suitable trees / structures, which would provide additional nesting opportunities for local bird populations.

¹ 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.

7 Conclusions

7.1 Overview

The Preliminary Ecological Appraisal found the Site to have negligible-low potential for nesting birds and foraging / commuting bats, and negligible potential for great crested newts, roosting bats, and reptiles. The site was found to be predominately building area (Cottage and Shed), hardstanding and amenity grassland with small areas of ornamental vegetation, which were found to have negligible potential for protected species and although there were nesting opportunities for birds within the cottage and trees onsite, it was unlikely that other protected species would be using site.

As adjacent habitats were more likely to support protected species (particularly hedgehogs, and foraging / commuting bats), several precautionary recommendations have been made regarding those species' groups.

7.2 Recommendations

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

- Sensitive lighting measures for bats.
- Covering of excavations and/or provision of exit ramps is recommended during works to prevent harm to mammals.
- To prevent infringing legislation which protects all nesting birds, it is recommended that any building or vegetation clearance (dense scrub) is carried out outside the breeding bird season (which runs from March to September) or following a nesting bird survey by a suitably experienced ecologist.
- Any fencing at the Site boundaries allows movement of hedgehogs throughout the Site post-development.

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.

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

7.3 Recommendations for Biodiversity Enhancements

Enhancement features, such as bat boxes, wild planting and bird boxes, will be incorporated into the final designs and therefore provide additional breeding, foraging, and sheltering opportunities for a range of wildlife.

8 Validation

Table 3. Validity duration of the data.

<i>Information Source</i>	<i>Date Undertaken</i>	<i>Valid Until</i>	<i>Comments</i>
PEA	19/07/23	19/07/25 (2 years)	Providing there are no changes to current planning applications, further surveys will be required – only advisory recommendations.

9 References

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

10 Appendices

10.1 Appendix I. Site photographs.

Site Photographs	
	
<p>Photo ref. 1. Western elevation of the cottage (surveyed building).</p>	<p>Photo ref 2. Northern elevation of the cottage (surveyed building). The extension is to be built over this section.</p>
	
<p>Photo ref 3. Potted plants outside fencing surrounding the northern perimeter of the the cottage, where the extends</p>	<p>Photo ref 4. Ornamental vegetation in the garden area east of site.</p>
	
<p>Photo ref 5. Eastern driveway and area to east of the cottage. Corkscrew willow to right of image.</p>	<p>Photo ref. 6. Eastern driveway</p>

	
<p>Photo ref. 7- Other areas of vegetation onsite, surrounding northern and north-western perimetre of the cottage</p>	<p>Photo ref 8. Well sealed gable ends with no ingress points for birds or bats.</p>
	
<p>Photo ref 9. Roof tiles on northern section of the cottage, showing some slightly lifted.</p>	<p>Photo ref. 10. Northern elevation of the cottage.</p>
	
<p>Photo ref 11 - Timber stack under corrugated metal to north-east of the cottage. Shed to right and small timber structure to left.</p>	<p>Photo ref 12 - Northern and eastern elevations of the northern section of the cottage, showing Coddendam Hall (neighbouring building) in background.</p>

	
<p>Photo ref 13- Timber stack and an assortment of outdoor garden items between the cottage and shed.</p>	<p>Photo ref 14- Eastern garden. Showing building to north (left of image), cultivated plants in beds, amenity grassland and shed (to right). Improved grassland in background.</p>
	
<p>Photo ref 15 – view of northern and eastern sections of eastern garden,</p>	<p>Photo ref 16 - Corkscrew willow in eastern garden.</p>
	
<p>Photo ref 17 - View of northern and western sections eastern garden.</p>	<p>Photo ref 18- 500 W floodlight on western gable of shed.</p>
	
<p>Photo ref 19- Well sealed ridge tiles with few / no roosting opportunities for bats.</p>	<p>Photo ref 20 - Small opening in soffit.</p>

10.2 Appendix II. Target (T) photographs and notes.

Target Photographs	
	
<p>Target Note 1- Small brush / log pile in eastern garden</p>	<p>Target Note 2- Plastic roof comb fillers th lined many of the roof tiles along the eaves</p>
	
<p>Target Note 3- Drain cover on hardstanding on northern section of site. A potential trap for amphibians, reptiles, and small mammals no animals were found during the survey.</p>	<p>Target Note 4- Gap under soffit.</p>
	
<p>Target note 5- Lifted pan tiles.</p>	<p>Target note 6- gap in soffit / roof board</p>
	
<p>Target note 7- Close up of TN6</p>	<p>Target note 8. Disused bird nest on northern elevation.</p>

10.3 Appendix III. Species list

Table 4: List of plant species found onsite.

Species List		
Group	Common name/s	Latin name
Plants	Cleaver	<i>Galium aparine</i>
	Common daisy	<i>Bellis perennis</i>
	Common dandelion	<i>Taraxacum officinale</i>
	Common ivy	<i>Hedera helix</i>
	Corkscrew willow (twisted)	<i>Salix matsudana</i> 'Tortuosa'
	Dove's-foot Crane's-bill	<i>Geranium molle</i>
	Green alkanet	<i>Pentaglottis sempervirens</i>
	Hosta plant / plantain lilies / gibōshi	<i>Hosta</i> sp.
	Milk thistle	<i>Silybum marianum</i>
	Perennial rye grass	<i>Lolium perenne</i>
	Red currants	<i>Ribes rubrum</i>
	Red dead nettle	<i>Lamium purpureum</i>
	Rhubarb	<i>Rheum × hybridum</i>
	Ribwort plantain / Narrow leaf plantain	<i>Plantago lanceolata</i>
	Rose bay willow herb	<i>Chamaenerion angustifolium</i>
	Runner bean	<i>Phaseolus coccineus</i>
	Speedwell	<i>Veronica</i> spp.
	Spring Onion	<i>Allium</i> sp.
	Sumac	<i>Rhus</i> sp.
	Stinging nettle / Common nettle	<i>Urtica dioica</i>
White clover	<i>Trifolium repens</i>	
Wood sorrel	<i>Oxalis</i> spp.	
Yarrow / Milfoil	<i>Achillea millefolium</i>	

10.4 Appendix IV. Figures

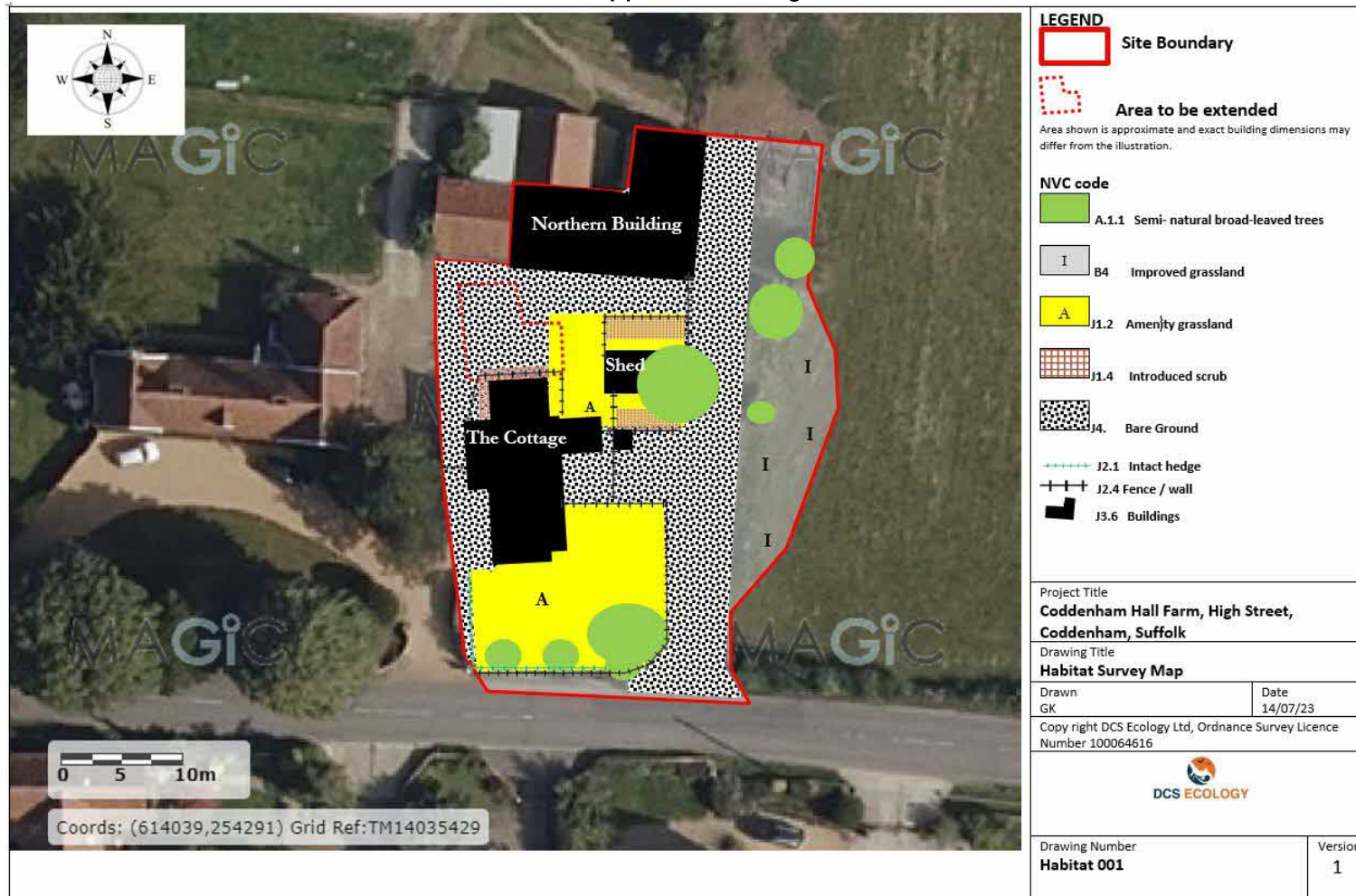


Figure 2: Phase 1 Habitat map (according to JNCC).

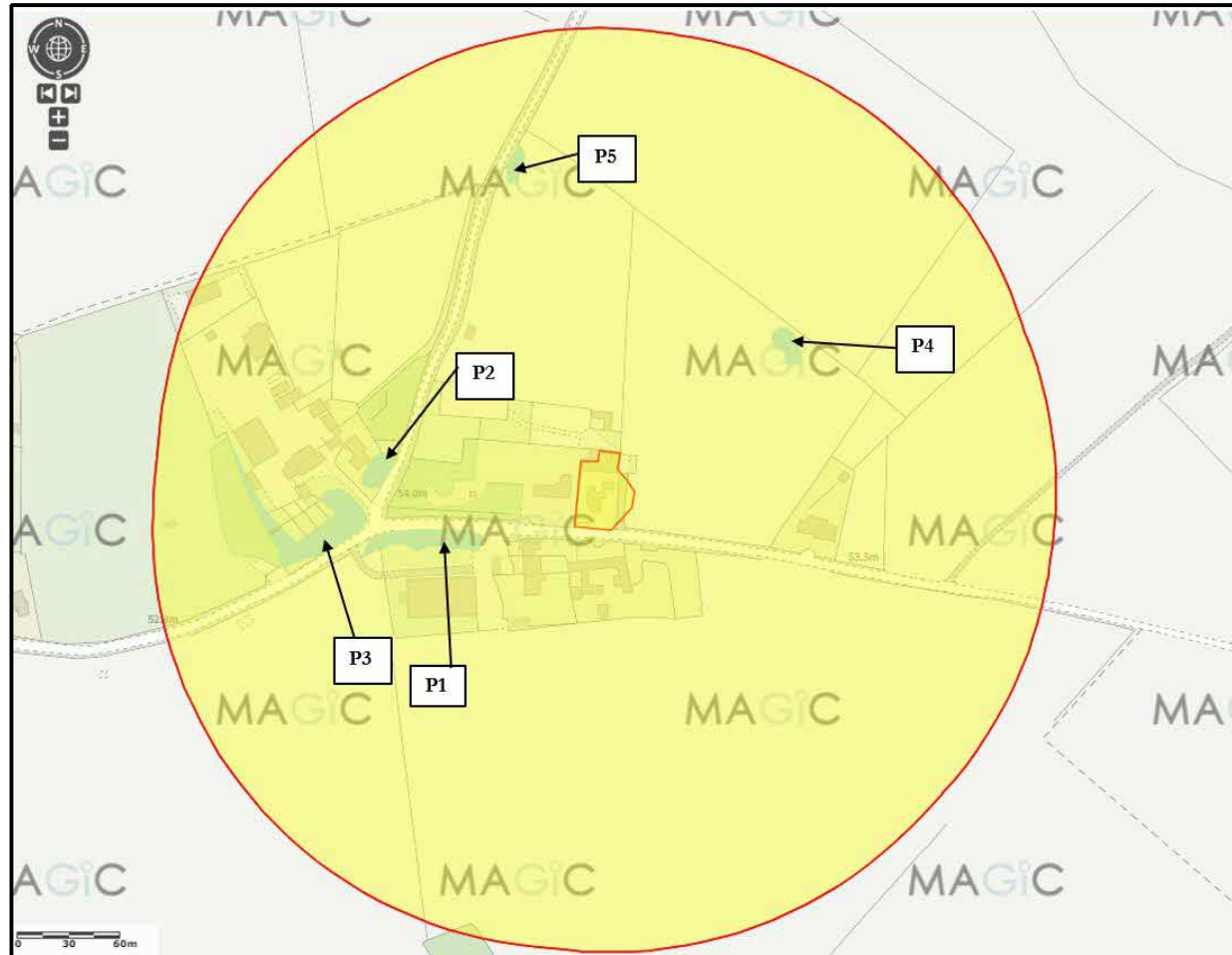


Figure 3 Great Crested Newt Habitat Suitability Index Map 250m, showing standing water within 250m of site. Contains Ordnance Survey data © Crown copyright and database right 2023, under licence 100064616.

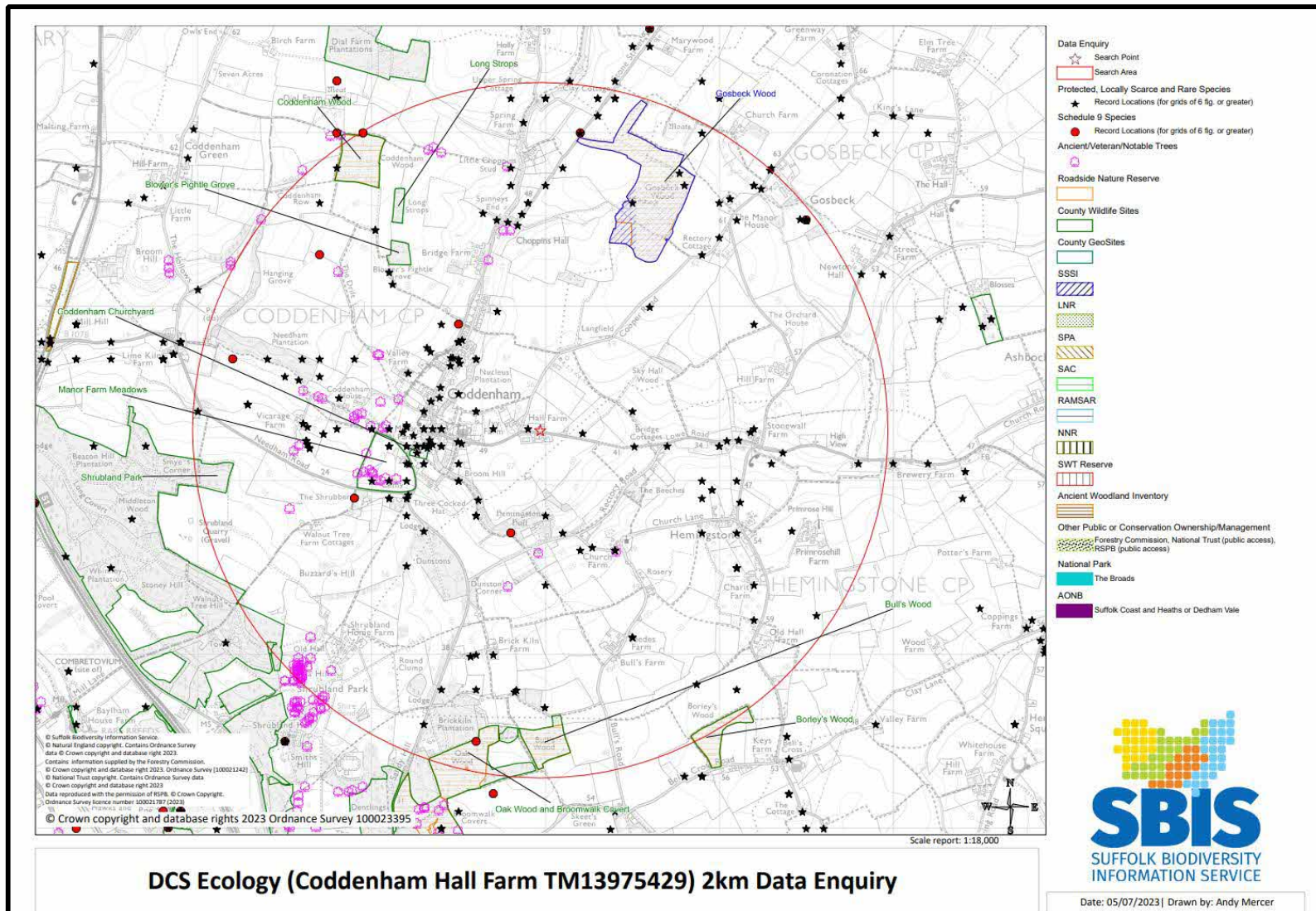


Figure 4. Protected species records, Statutory and Non-Statutory Designated Sites within 2km of the Site

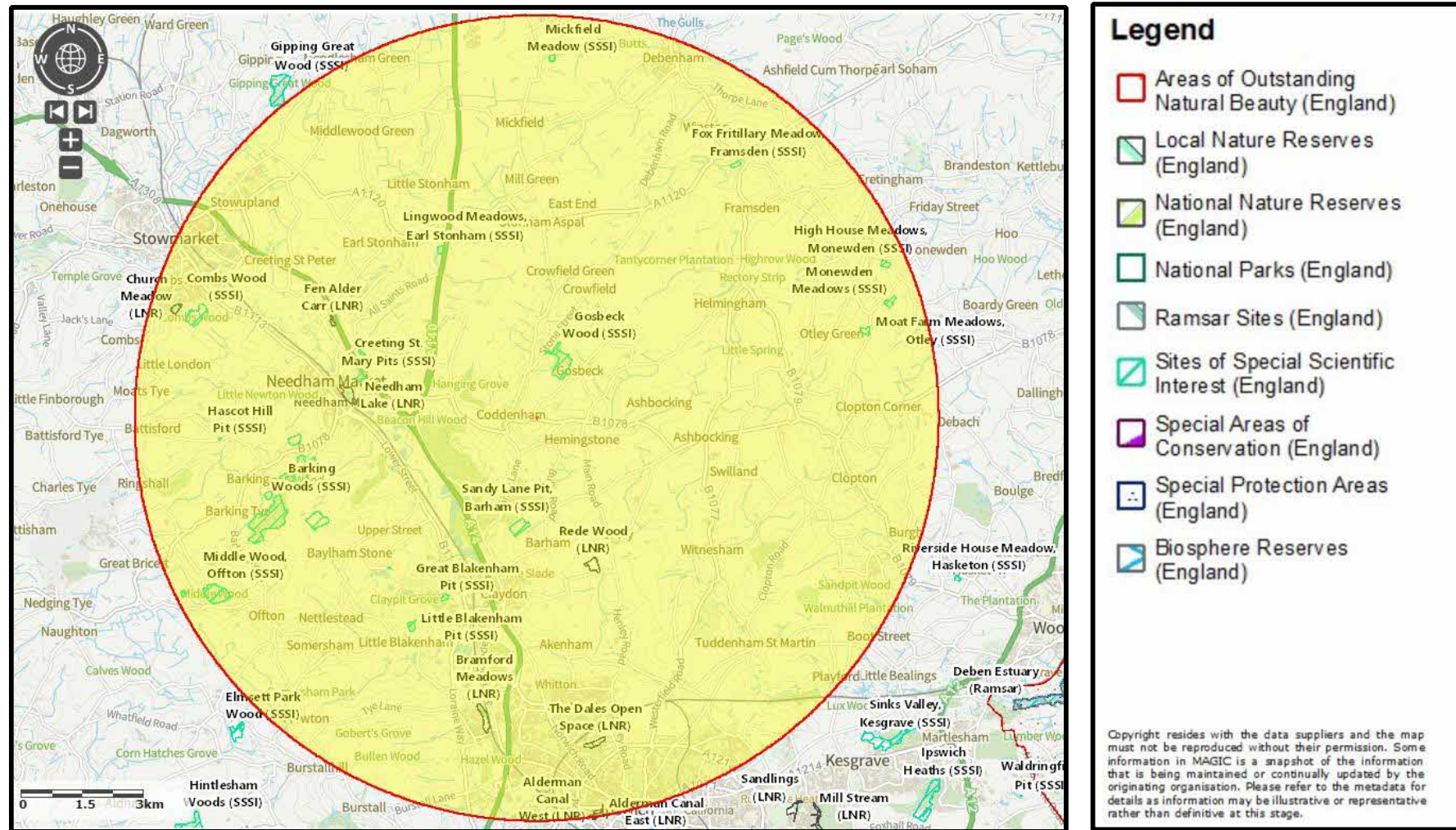


Figure 5. Statutory Conservation Sites within 10 km of the Site. Contains Ordnance Survey data © Crown copyright and database right 2023, under licence 100064616.

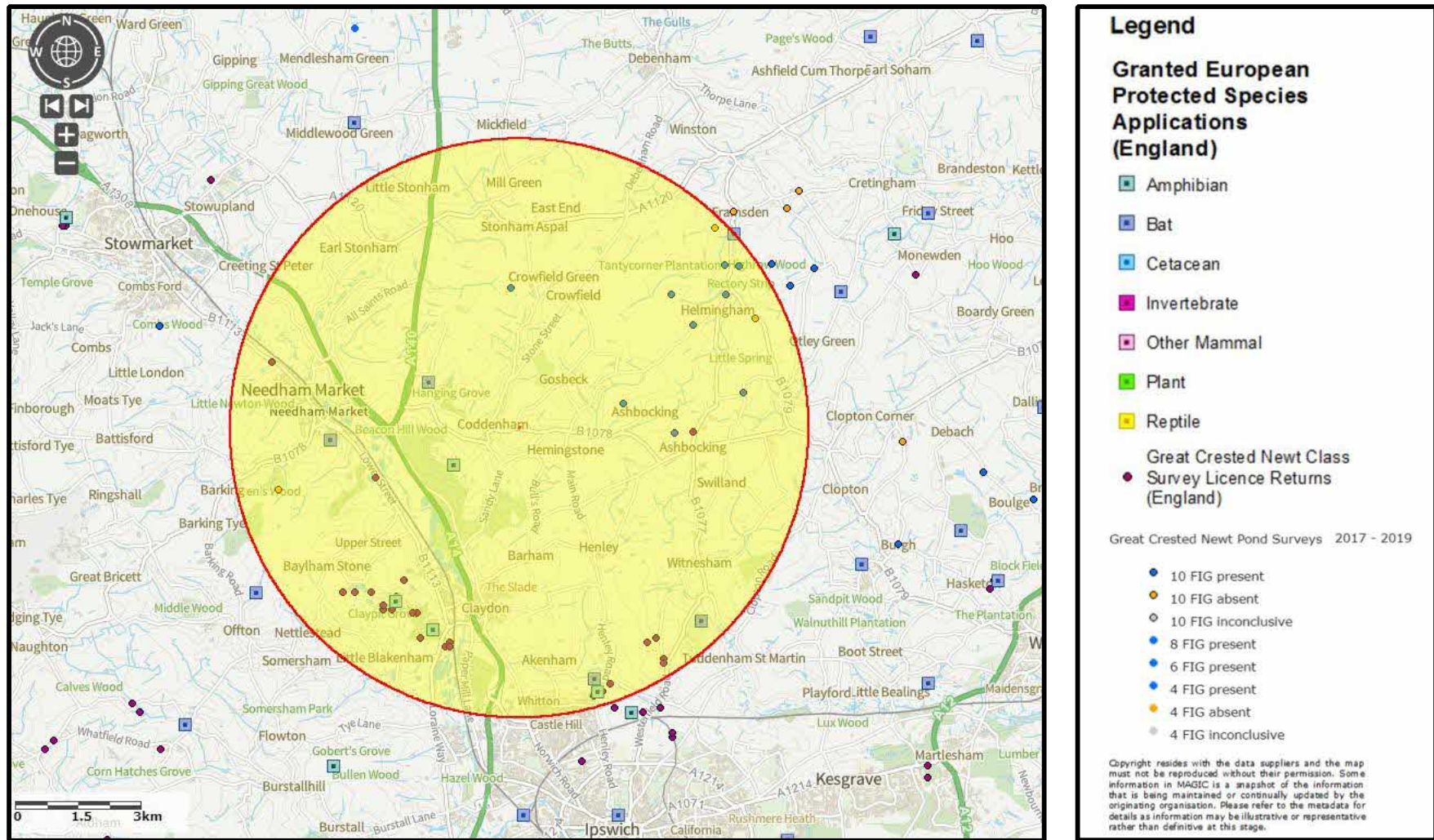


Figure 6. Protected species recorded on MAGIC Map within 7 km of the Site. Contains Ordnance Survey data © Crown copyright and database right 2023, under licence 100064616.

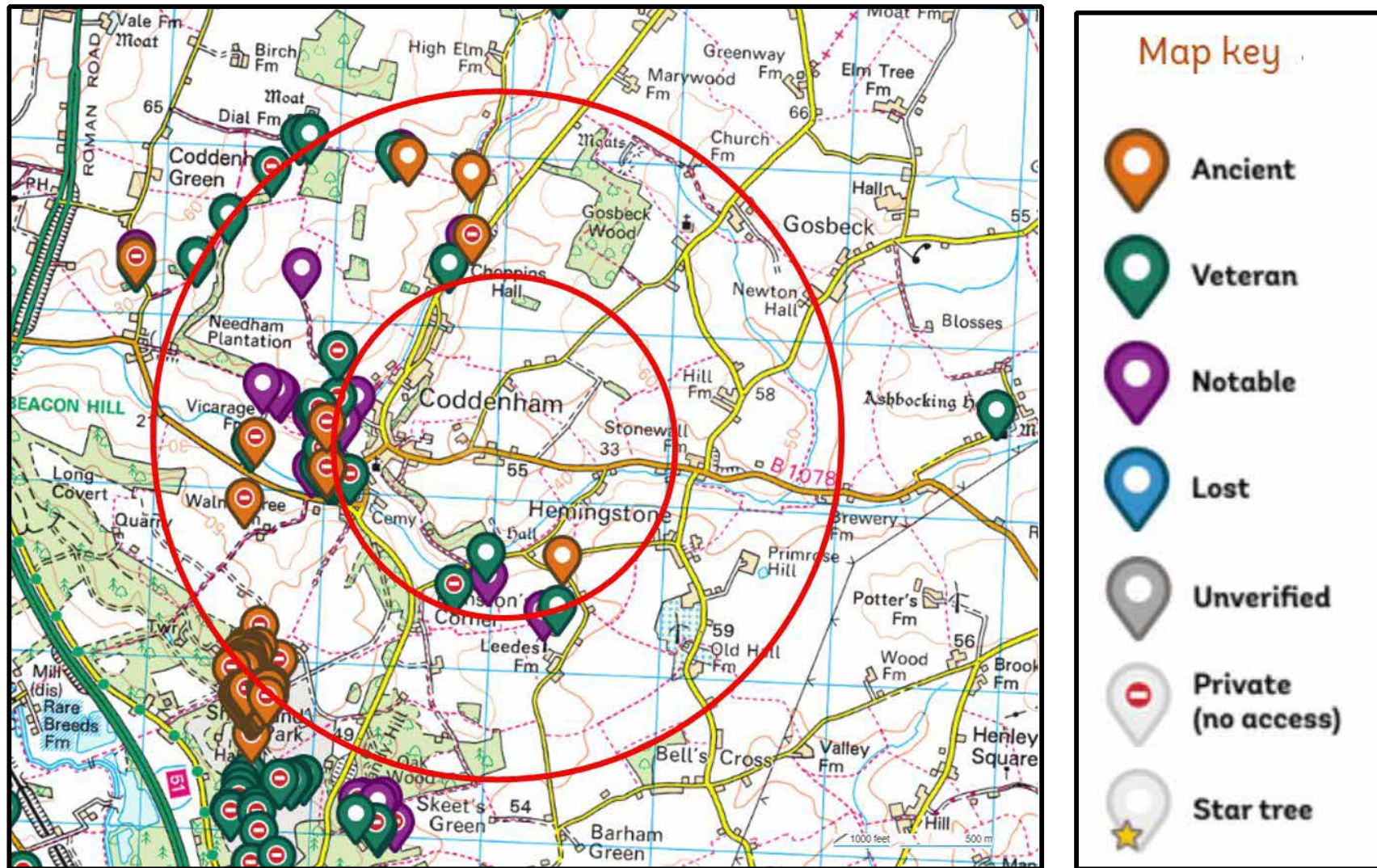


Figure 7. Veteran, Ancient and Notable Trees recorded on Woodland Trust Ancient Tree Inventory within 2 km of the Site (outer 2km signifying 2km, inner ring signifying 1km). Contains Ordnance Survey data © Crown copyright and database right 2023, under licence 100064616

10.5 Appendix V. 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.

10.6 Appendix VI. Relevant UK legislation to flora and fauna highlighted in the PEA.

Species	Legislation	Protection
Bats	Conservation of Habitats and Species Regulations 2010 (as amended) Wildlife and Countryside Act 1981, Schedule 5 (as amended) Wild Mammals Act 1996	It is an offence to: Intentionally kill, injure, or take any bat. Intentionally or recklessly disturb a bat. Intentionally or recklessly damage, destroy or obstruct access to a bat roost.
Great crested newts (GCN)	Conservation of Habitats and Species Regulations 2010 (as amended) Wildlife and Countryside Act 1981, Schedule 5 (as amended)	It is an offence to: Intentionally kill, injure, or take a GCN. Intentionally or recklessly disturb a GCN. Intentionally or recklessly damage, destroy or obstruct access to any place used by a GCN for shelter or protection.
Badgers	Wildlife and Countryside Act 1981 (as amended), Schedule 5 as amended Protection of Badgers Act 1992	It is an offence to: Destroy a badger sett Damage a badger sett or any part of it. Obstruct access to, or any entrance of a badger sett. Disturb a badger whilst it is occupying a sett
Birds	Wildlife and Countryside Act 1981 (as amended)	It is an offence to: Intentionally kill, injure, or take any wild bird Intentionally take, damage, or destroy nests in use or being built Intentionally take, damage, or destroy eggs. 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.

10.7 Appendix VII. List of abbreviations.

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

10.8 Appendix VIII. Protected and priority bird species records within 2 km of the Site.

<i>Species common name</i>	<i>Latin name</i>	<i>Status</i>	<i>Most Recent Record</i>
Lesser redpoll	<i>Acanthis cabaret</i>	BoCC Red; S41	2021
Goshawk	<i>Accipiter gentilis</i>	WCA1i	2008
Marsh Warbler	<i>Acrocephalus palustris</i>	BoCC Red, Sect.41, UKBAP, WCA1i	2008
Skylark	<i>Alauda arvensis</i>	BoCC Red, Sect.41, UKBAP	2022
Kingfisher	<i>Alcedo atthis</i>	WCA1i	2019
Greylag Goose	<i>Anser anser</i>	WCA 1ii	2017
Swift	<i>Apus apus</i>	BoCC Red	2019
Little Ringed Plover	<i>Charadrius dubius</i>	WCA 1i	2021
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2017
Marsh harrier	<i>Circus aeruginosus</i>	WCA 1i	2019
Cuckoo	<i>Cuculus canorus</i>	BoCC Red, S41	2020
House martin	<i>Delichon urbicum</i>	BoCC Red	2013
Yellow hammer	<i>Emberiza citrinella</i>	BoCC Red, UKBAP; S41	2020
Reed bunting	<i>Emberiza schoenicus</i>	UKBAP; S41	2017
Merlin	<i>Falco columbarius</i>	BoCC Red, WCA1i	2015
Hobby	<i>Falco subuteo</i>	WCA1i	2010
Brambling	<i>Fringilla montifringilla</i>	WCA1i	2007
Herring gull	<i>Larus argentatus</i>	BoCC Red, UKBAP	2020
Linnet	<i>Linaria cannabina</i>	BoCC Red; S41	2017
Crossbill	<i>Loxia curvirostra</i>	BoCC Red, UKBAP, S41	2008
Nightingale	<i>Luscinia megarhynchos</i>	BoCC Red	2013
Red kite	<i>Milvus milvus</i>	WCA1i	2015
Yellow wagtail	<i>Motacilla flava</i>	BoCC Red; S41	2010

Spotted flycatcher	<i>Muscicapa striata</i>	BoCC Red, UKBAP, S41	2022
Curlew	<i>Numenius arquata</i>	BoCC Red; S41	2009
House sparrow	<i>Passer domesticus</i>	BoCC Red, UKBAP, S41	2017
Grey partridge	<i>Peraix peraix</i>	BoCC Red; S41	2009
Black redstart	<i>Phoenicurus ochruros</i>	BoCC Red, WCA1i	2010
Marsh tit	<i>Poecile palustris</i>	BoCC Red; S41	2013
Dunnock	<i>Prunella modularis</i>	UKBAP	2020
Bullfinch	<i>Pyrrhula pyrrhula</i>	UKBAP	2021
Woodcock	<i>Scolopax rusticola</i>	BoCC Red	2020
Turtle dove	<i>Streptopelia turtur</i>	BoCC Red, UKBAP, S41	2016
Starling	<i>Sternus vulgaris</i>	BoCC Red, UKBAP	2020
Green sandpiper	<i>Tringa ochropus</i>	WCA1i	2021
Redwing	<i>Turdus iliacus</i>	WCA1i	2020
Songthrush	<i>Turdus philomelos</i>	BoCC Red, UKBAP, S41	2017
Fieldfare	<i>Turdus pilaris</i>	BoCC Red, WCA1i	2020
Mistle thrush	<i>Turdus viscivorus</i>	BoCC Red	2021
Barn owl	<i>Tyto alba</i>	WCA1i	2020
Lapwing	<i>Vanellus vanellus</i>	BoCC Red, UKBAP, S41	2017