

Appendix 6.2

Preliminary Ecological Appraisal - Report 2
(Brauncewell)





Springwell Energyfarm Ltd

Springwell Solar Farm – Land at Brauncewell

Preliminary Ecological Appraisal Report

2483765

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RSK
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EXPERTS IN ECOLOGY

RSK GENERAL NOTES

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EXECUTIVE SUMMARY

This report presents the results of a preliminary ecological appraisal (PEA) carried out on in April January 2023 of additional land proposed for the Springwell solar farm site at Brauncewell, Lincolnshire. It has been produced to inform the proposed installation of a solar farm at the Site.

The site is comprised of arable fields dissected by ditches, streams, and hedgerows with mixed plantation woodlands and ponds scattered throughout the survey area.

No impacts to any statutory designated sites are anticipated due to their distances from the site. However, one non-statutory local wildlife site is within the Site and two other local wildlife sites are adjacent to the Site. Measures to protect these sites during construction will be outlined in a construction and environmental management plan (CEMP) as part of the Environmental statement to ensure that the proposed works will not have any significant impacts on them.

No notable or invasive plant species were recorded within the survey area. Other than the arable fields, many of the habitats within the survey area are included in the local biodiversity action plan. The semi-natural habitats on site will be retained and protected wherever possible, particularly the ponds and areas of woodland.

Further surveys to determine the extent of potential ecological constraints are recommended, including:

- breeding bird surveys to assess breeding status and population sizes of protected and notable species;
- bat activity surveys (involving the deployment of static detectors) to inform of bats usage of the site and to determine mitigation should any hedgerows or suitable habitat be impacted by works;
- eDNA survey of pond in south-east corner of site and four nearby ponds (within 50m-100m) to determine presence or likely absence of great crested newts;
- reptile surveys should be carried out if significant areas of high suitability reptile habitat can't be avoided by design;
- roosting bat surveys – climbing or activity surveys of any trees suitable for roosting bats that will be impacted by the proposed development;
- water vole surveys of the ditches and streams within the survey area if they will be affected by works or if a 10 m buffer zone cannot be implemented in the design;
- targeted hedgerow surveys if any sections of hedgerows need to be removed; and
- a pre-construction update badger survey within six months of start of works to check for any new badger activity at the Site.

Mitigation measures required to be outlined in a CEMP include:

- measures to protect local wildlife sites and local biodiversity action plan habitats;
- nesting bird and breeding brown hare checks by an ecologist prior to commencement of works;

- precautionary working methods to protect reptiles, amphibians, hedgehogs, badgers and other nocturnal species;
- habitat retention and protection in line with relevant guidance; and
- implementation of a sensitive lighting strategy to avoid disturbance to foraging bats, if any artificial lighting is required.

In addition to the above the design is proposed to be biodiversity led. A detailed biodiversity design would be developed in tandem with the scheme design, ensuring considerable gains for biodiversity with habitat enhancement and creation measures benefitting flora and fauna and making a significant contribution to local biodiversity objectives.

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1.0 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This report presents the results of a preliminary ecological appraisal (PEA) comprising a background data search and a UKHab survey, with assessment for protected or otherwise notable species, for an additional area of land for the proposed Springwell solar farm development, near Braucewell, Lincolnshire (central National Grid Reference TF042528). The Site is shown in Figure 1.
- 1.1.2 The PEA included an assessment of ponds within the survey area for their habitat suitability index to support great crested newts (*Triturus cristatus*) and a ground-level assessment of trees potentially suitable for roosting bats within the Site and along the Site boundaries.
- 1.1.3 The survey of the additional land at Braucewell was carried out in January 2023. The majority of the rest of the proposed Springwell solar farm site was previously surveyed in the spring of 2022. An additional area to the north of Thompson's Bottom (central National Grid reference - TF 01735 55991) was also added to the scheme in late 2022 and surveyed in January 2023.
- 1.1.4 The report identifies ecological constraints relevant to the project, specifies any further survey or mitigation requirements, provides recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement. The appraisal was carried out on behalf of EDF.

1.2 Landscape context

- 1.2.1 The c.114 ha Site is located close to the villages of Ruskington and Cranwell Village in the district of North Kesteven, Lincolnshire. The Site is dominated by agricultural fields bordered by hedgerows with a mixed woodland plantation to the north. There is one pond within the Site and an additional four to the south-east near Braucewell Church and Manor Farm. A small, partially dry ditch runs through the south-eastern corner of the Site.
- 1.2.2 The surrounding landscape is largely arable, with Braucewell Quarry to the south-west and the hamlet of Braucewell to the east.

1.3 Development proposals

- 1.3.1 The assessment is based on the red line boundary of the Site as shown in Figure 1. The specific detailed development proposals are not currently known but are anticipated to be for the installation of solar panels and/or associated infrastructure. The solar farm development, once constructed, should be operational for a period of approximately 40 years after which it is anticipated to be decommissioned.

1.4 Validity of data

- 1.4.1 According to Chartered Institute of Ecology and Environmental Management (CIEEM) advice (CIEEM 2019), survey data are valid for a period of 12 to 18 months from the date of the survey. The report highlights any circumstances where data may be valid for less than 18 months. Between 18 months and three years if significant changes have occurred to the habitats present then a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA) and then review the validity of the report.

2.0 METHODS

2.1 Overview

2.1.1 The preliminary ecological appraisal (PEA) was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017), and it therefore included:

- a desk study (including records of designated sites, protected and notable species; a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; and requesting data from the local records centre) here called a background data search (BDS); and
- a field survey that informed habitat mapping (UKHab), an assessment of the possible presence of protected or priority species, and the likely importance of habitat features.

2.1.2 The PEA report includes an ecological description of the survey area and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.

2.1.3 The survey of the Site was carried out on January 26th-27th 2023 by Liz Probert of RSK Biocensus. Liz is a senior ecology consultant with over nine years' experience in ecological consultancy, with extensive experience in carrying out PEAs.

2.2 Background data search

2.2.1 A search was made in January 2023 for relevant reference materials. A list of sources is given in **Error! Reference source not found..**

Table 1 Data sources

Information obtained	Available from
Protected and noteworthy species-records	Greater Lincolnshire Nature Partnership
MAGIC (the Multi-Agency Geographic Information website) to view statutory designated nature conservation sites	www.magic.gov.uk
Nationally designated site locations and citations	Natural England
European and Internationally designated site locations and citations	Joint Nature Conservation Committee (JNCC) website
Local Designated site locations and citations	Greater Lincolnshire Nature Partnership
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website

Information obtained	Available from
Details of species and habitats listed on the LBAP	Local biodiversity action plan website
Local planning guidance and policies	Central Lincolnshire Local Plan (adopted 2017) Policy LP21: Biodiversity and Geodiversity
Aerial photography	As a viewer only, sources include: www.google.com ; www.bing.com ; Google earth. Where reproduced as figures, sources vary and be licensed through ArcGIS, as stated.

2.2.2 A search was made for information on statutory designated sites (often internationally and nationally important sites for ecology) and non-statutory designated (local wildlife) sites within 2 km of the survey area boundary. The search was extended to 10 km for internationally designated sites i.e., Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA).

2.2.3 The search for noteworthy species within 2 km of the survey area boundary included species within these search parameters:

- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017);
- nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 and The Protection of Badgers Act 1992;
- species listed as critically endangered, endangered, or vulnerable based on the IUCN Red List Categories and Criteria 2001;
- all species listed on the RSPB Birds of Conservation Concern 4 as red or amber;
- nationally rare or nationally scarce species;
- notable invertebrates; and
- species that are of principal importance under The Natural Environment and Rural Communities (NERC) Act (2006) or are priority species under the local biodiversity action plan.

2.3 Plants and habitats

UKHab survey

2.3.1 The field survey was based on the UKHab survey approach (Butcher et al., 2020, 2020a) and habitats were identified down to at least level 4, where possible. The survey involved the following elements:

- habitat mapping using a set of standard colour codes and secondary codes to indicate habitat types on a UKHab habitat map (*Figure 2*); and

- a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the UKHab habitat map, referred to as target notes.
- 2.3.2 Vascular plant species were recorded during the survey, though at this level of survey, no species lists should be regarded as exhaustive (additional species would almost certainly be found in more detailed surveys or repeat surveys at various times of the year).
- 2.3.3 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill et al. (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are common names with the scientific names in brackets afterwards on the first occurrence only. Doubtful identifications are preceded by 'cf.' placed before the specific epithet where the plant is very probably the species indicated, but it could not be distinguished from similar members of the genus with certainty.

Invasive non-native species (INNS)

- 2.3.4 The survey did not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any invasive non-native species (even though some things may be evident). However, we have noted any known invasive non-native species seen during the course of the survey, as well as any invasive non-native species of animals recorded during the survey.

2.4 Protected and notable animals

General

- 2.4.1 The survey area was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Taking into account the results of the BDS, the geographic location, connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the survey area, and the proposed development, specific assessment was also carried out for the species/species groups outlined below.

Invertebrates

- 2.4.2 The survey area was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Great crested newts

- 2.4.3 Although standing water is essential for their breeding, great crested newts are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds (Beebee & Griffiths, 2000). The survey area was assessed for its suitability to support both terrestrial and breeding great crested newts. Suitable breeding ponds are typically well-vegetated, relatively clean and unpolluted, have few fish or wildfowl, and are likely to

retain water throughout most (but not necessarily all) summers. Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be found in a broad range of sub-optimal habitats as well.

- 2.4.4 The locations of ponds were identified using OS maps, aerial imagery, and site visits. Their assessment of suitability for great crested newts was carried out using a Habitat Suitability Index (HSI) developed by Oldham et al. (2000). It is a numerical index, between 0 and 1, where 0 indicates unsuitable habitat and 1 represents optimal habitat.
- 2.4.5 There is a positive correlation between HSI scores and presence and abundance of Great Crested Newts in ponds. Generally, ponds with high HSI scores are likely to support larger populations. However, the relationship is not sufficiently precise to conclude that a pond with a high HSI will definitely have a large newt population, or that a pond with a low HSI score will only have a small newt population or no newts at all.

Reptiles

- 2.4.6 The survey area was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g., south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.7 Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Birds

- 2.4.8 The survey area was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the RSPB's Birds of Conservation Concern 4 (Stanbury et al., 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites.
- 2.4.9 Consideration was given to the survey area's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. Buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings, and pellets.

Bats

- 2.4.10 Habitats were assessed for their suitability for foraging and commuting bats in line with guidance provided in Collins (2016). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.11 Trees were noted if they had suitability for roosting bats (Collins, 2016). This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites).

2.4.12 Each tree’s suitability to support roosting bats was then categorised as defined in Table 2.

Table 2 Categorisation of the suitability of trees for roosting bats (Collins 2016)

Category (Potential to support roosting bats)	Description
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.
Low suitability	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate suitability	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely for a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High suitability	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Bats or evidence of bats recorded during the initial inspection surveys or during dusk/dawn surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

Water voles and otters

2.4.13 Waterbodies and watercourses and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.

2.4.14 Waterbodies and watercourses on the Site were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Badgers

2.4.15 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging, or setts within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Species of Principal Importance

- 2.4.16 Consideration was also given to the Site's potential for other noteworthy species such as those listed under Section 41 of the NERC Act (2006) (formerly UK Biodiversity Action Plan (BAP) species) that are likely to be present in the area e.g., brown hare (*Lepus europaeus*) and hedgehog (*Erinaceus europaeus*).

2.5 Constraints and limitations

- 2.5.1 Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken in winter. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present on the Site.
- 2.5.2 This preliminary appraisal as to whether protected or otherwise notable species might occur on the Site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.3 Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the likely presence of such species based on the field signs found, and the nature of the habitats present.
- 2.5.4 Access was not made to adjacent land (the exception being other land within the Springwell solar farm boundary which was surveyed in 2022), and therefore it remains possible that a badger sett (or other evidence of protected or notable species) beyond the site boundary could have been missed.
- 2.5.5 Trees within woodlands were not assessed individually for their suitability for roosting bats, on the assumption that woodland would be retained within the solar farm scheme design.
- 2.5.6 All recommendations made in this report are based on the information provided by EDF. A detailed layout is not available at this time. If the development plans change significantly or extend outside of the survey area, then an ecologist must be consulted and further surveys may be required.

3.0 RESULTS

3.1 Background Data Search

Biodiversity action plans

3.1.1 The latest Lincolnshire local biodiversity action plan (LBAP) lists 26 habitat action plans (HAPs) and 11 species or species group action plans (SAPs). The local HAPs and SAPs that are relevant to the proposed development are:

Habitats:

- Arable field margins;
- Hedgerows and hedgerow trees;
- Lowland meadows;
- Ponds, lakes, and reservoirs, rivers, canals, and drains; and
- Lowland mixed deciduous woodland.

Species:

- Bats;
- farmland birds;
- newts; and
- water vole.

Statutory designated sites

3.1.2 There are no internationally protected nature conservation sites within 10 km of the site boundary. There are no nationally protected statutory designated nature conservation sites within 2km.

Non-Statutory Sites

3.1.3 There are three non-statutory designated sites within 2 km of the site boundary. The designated sites present within the study area are listed in Table 3 along with their proximity to the Site. Citations for these Local Wildlife Sites (LWS) sites are provided in Appendix E.

Table 3 Non-statutory sites within 1 km of the site boundary

Site name	Approximate distance (km) from Site
A15, Slate House Farm to Dunsby Pit Plantation LWS	Within site boundary
Bloxholm Wood LWS and Lincolnshire Wildlife Trust Reserve	Adjacent to north-eastern boundary
Temple Road Verges, Welbourn to Braucewell LWS	Adjacent to north-western boundary

Protected and Notable Species

- 3.1.4 The BDS returned 503 records of 144 species recorded between 2000 and 2021 within 2km of the survey area boundary. Noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.
- 3.1.5 Of these, 76 are flowering plants, one is a moss, one is a fungus, six are invertebrates, one is fish, one is an amphibian, 40 are birds, and 18 are mammals (of which nine are bats).
- 3.1.6 Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list is given in Appendix B. Those of relevance to the survey area and the current proposals are discussed in Sections 4.2 and 4.3.

3.2 Plants and habitats

UKHab Survey

- 3.2.1 The UKHab map is provided as Figure 2 and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in Appendix C. The following habitat types (with UKHab codes in brackets) are present on and around the survey area:
- Other neutral grassland (g3c)
 - Lowland mixed deciduous woodland (w1f)
 - Other woodland; mixed; mainly broadleaved (w1h5)
 - Line of trees (w1g6)
 - Hedgerow (priority habitat) (h2a)
 - Mixed scrub (h3h)
 - Cereal crops (c1c)
 - Built linear features (u1e)
 - Standing open water (r1) and
 - Other rivers and streams (r2b)

Other neutral grassland (g3c)

- 3.2.2 Uncultivated margins of neutral grassland approximately 0.5-1.5m wide line the perimeter of most of the fields within the Site (e.g., Target Note 1).
- 3.2.3 Larger areas are also present within the Site, particularly in the east of the Site where wide areas of neutral grassland border the arable fields (e.g. TN2).
- 3.2.4 In the south-eastern corner of the Site are two larger areas of uncultivated neutral grassland with a longer and more species-diverse sward. The area to the west of Church

View Cattery (TN3) contains a small area of mixed scrub (described below 3.2.15). The area to the east of the cattery (TN4) has several veteran trees including sycamore (*Acer pseudoplatanus*), pedunculate oak (*Quercus robur*), and sweet chestnut (*Castanea sativa*).

Lowland mixed deciduous woodland (w1f)

- 3.2.5 Off-Site but bordering the Site to the north-east is Bloxham Woods (TN5) – a Lincolnshire Wildlife Trust reserve. The woodland is dominated by ash (*Fraxinus excelsior*) and sycamore with occasional sweet chestnut and pedunculate oak.

Other woodland; mixed; mainly broadleaved (w1h5)

- 3.2.6 Within the centre of the Site is Warren Pit Plantation (TN6). A line of cypresses (*Cypressus sp.*) has been planted along the western edge, though the woodland itself is mainly comprised of sycamore and ash. The understorey consists of dense nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*), with scattered hawthorn (*Crataegus monogyna*) and elder (*Sambucus nigra*).
- 3.2.7 A narrow strip of plantation woodland is also present adjacent to (but outside of) the southwest boundary of the Site (TN7), to the north of Brauncewell quarry. It is dominated by ash and sycamore with occasional pedunculate oak.
- 3.2.8 A much younger strip of plantation woodland (TN8) extends along the eastern edge of the quarry adjacent to the site boundary. It appears to have been planted within the last 20 years and consists of rows of sycamore, field maple (*Acer campestre*), hazel (*Corylus avellana*), hawthorn, and ash.
- 3.2.9 A small area of secondary woodland is present to the south of Brauncewell Cottages (TN9) outside of the site boundary that has grown on the site of Dunsby Pit. It is dominated by ash and sycamore with occasional oak and a dense understory of bramble, ivy (*Hedera helix*), and hawthorn.

Line of trees (w1g6)

- 3.2.10 An outgrown hedgerow over 5m tall lines the northern boundary of the Site along the road leading to Temple Bruer (TN10). It is predominantly comprised of hawthorn, blackthorn (*Prunus spinosa*), ash, and sycamore with dense bramble and ivy.
- 3.2.11 A second outgrown hedgerow lines the north-eastern boundary to the south of Bloxholm Wood (TN11). It is comprised of ash, field maple, hawthorn, and blackthorn with dense bramble, dog rose (*Rosa canina*), and ivy.
- 3.2.12 A line of mature beech trees lines the road leading to Brauncewell church (TN12).

Hedgerow (priority habitat) (h2a)

- 3.2.13 Hedgerows border many of the fields within the Site. They are mainly composed of hawthorn and blackthorn and appear to have been flailed within the last two years. Several of the hedgerows (e.g. TN13) contain semi-mature or mature ash, sycamore, and beech trees.

Mixed scrub (h3h)

- 3.2.14 A large patch of mixed scrub, consisting of blackthorn, hawthorn, elder, and bramble, lines the fields along the boundary of with the A15 (TN14).
- 3.2.15 The area of grassland to the west of Church View Cattery (TN3) contains an area of mixed scrub where young trees have self-seeded under power lines.

Cereal crops (c3c)

- 3.2.16 The seven fields within the Site have been planted with cereal crops.

Built linear features (u1e)

- 3.2.17 The Site is bisected by the A15. A smaller road runs along the north-western boundary towards Temple Bruer and in the south-east a small track leads towards Brauncewell Church.

Standing open water (r1)

- 3.2.18 In the south-east corner of the Site is a large pond (TN15) which is heavily shaded by numerous mature willows (*Salix sp.*) and surrounded by scrub. There were few aquatic macrophytes and the water appeared partially turbid. It is connected at the south-west corner and at the northern end by slow-flowing ditches.

Other rivers and streams (r2b)

- 3.2.19 In the south of the Site, running partially along the track leading to Brauncewell Church, is a shallow drainage ditch (TN16). It was largely dry, though it held water towards the eastern end. No aquatic plants were visible, only species typical of neutral grassland.
- 3.2.20 A second ditch ran north from the pond then turned east towards neighbouring fields (TN17). This ditch was slightly deeper and held water, with a slow flow towards the northern end. No aquatic plants were visible. The ditch is bordered by broadleaved trees including sycamore, ash, and pedunculate oak.

3.3 Protected and notable animals

- 3.3.1 Figure 1 shows the location of the target notes referred to in the text below, which show the location of particular features with suitability for protected and notable animals. A full description for each of the target notes is given in Appendix C.

Invertebrates

- 3.3.2 The BDS returned 12 records of six invertebrate species, including bean seed beetle (*Bruchus rufimanus*), common garden snail (*Cornu aspersum*) and the Section 41 species white-letter hairstreak (*Satyrrium w-album*). The white-letter hairstreak butterfly's larval food plant is elm (*Ulmus spp.*) and it breeds where elms occur in hedgerows, scrub and woodland edges (Butterfly Conservation 2023).
- 3.3.3 Within the survey area, the habitats present were considered likely to support only a common assemblage of invertebrate species, typical of hedgerows scrub, plantation woodlands, and species-poor grasslands. No obvious stands of regenerating elm

suckers¹ were noted but it is possible that elm and white letter hairstreaks persist on some of the woodland areas. However, as the solar farm scheme design will likely retain these areas it is therefore not considered that further invertebrate surveys will be required.

Fish

- 3.3.4 The BDS returned one record of European eel (*Anguilla anguilla*).
- 3.3.5 The ponds and watercourse within the survey area are small and of relatively poor quality, though the ditch within the Site connects to the River Slea. If works have the potential to adversely affect eels due to habitat loss or degradation by creating temporary or permanent barriers to dispersal, further surveys would be required to inform mitigation.

Great crested newts

- 3.3.6 The BDS revealed no records of great crested newts within 2km of the survey area boundary.
- 3.3.7 There are several areas of neutral grassland with a longer sward (e.g. TN3 and TN4) that could provide suitable terrestrial habitat for great crested newt.
- 3.3.8 One pond (TN15) is present within the Site. An additional four ponds are located to the south of Brauncewell Church, within 50m of the Site. It was not possible to survey these additional four ponds due to lack of access at the time of the survey.
- 3.3.9 The Habitat Suitability Index (HSI) assessment result for the pond within the Site is 'good' (i.e. the pond has good suitability for great crested newts). Details are provided in Table 4 below.

Table 4 HSI calculations for pond on Site

Waterbody number	P1
SI1 – Location	1
SI2 – Pond area	0.9
SI3 – Permanence	1
SI4 – Water quality	0.67
SI5 – Shade	0.6
SI6 - Waterfowl	1
SI7 – Fish	0.67
SI8 – Pond count	0.67
SI9 – Terrestrial habitat	0.8
SI10 - Macrophytes	0.6
HSI	0.76
Categorisation	Good

Reptiles

- 3.3.10 The BDS returned no records of reptiles within 2km of the survey area boundary.

¹ Mature elm trees were devastated by Dutch elm disease but elm suckers grow back from root stock until the suckers also succumb to the disease.

3.3.11 Although the Site is mostly arable and therefore mostly of poor suitability for reptiles, there are some field margins and areas of rough grassland suitable for refuge and foraging for reptiles (particularly the areas of grassland in the south-east of the Site (TN3 and TN4). Furthermore, the woodland edges and dry stone walls lining several of the fields and tracks within the Site may offer basking and hibernation opportunities.

Birds

3.3.12 The BDS returned 256 records of 40 bird species within 2 km of the survey area.

3.3.13 Ten species are listed on Annex 1 of the Birds Directive: whooper swan (*Cygnus cygnus*), red kite (*Milvus milvus*), marsh harrier (*Circus aeruginosus*), hen harrier (*Circus cyaneus*), Montagu's harrier (*Circus pygargus*), osprey (*Pandion haliaetus*), Mediterranean gull (*Larus melanocephalus*), merlin (*Falco columbarius*), peregrine (*Falco peregrinus*), and woodlark (*Lullula arborea*).

3.3.14 Fifteen species are included in Schedule 1 of the Wildlife and Countryside Act 1981 (some species are included on more than one list): whooper swan, quail (*Coturnix coturnix*), red kite, hen harrier, marsh harrier, Montagu's harrier, osprey, Mediterranean gull, barn owl (*Tyto alba*), merlin, hobby (*Falco subbuteo*), peregrine, woodlark, fieldfare (*Turdus pilaris*), and redwing (*Turdus iliacus*).

3.3.15 Sixteen are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: grey partridge (*Perdix perdix*), hen harrier, Montagu's harrier, lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*), turtle dove (*Streptopelia turtur*), woodlark, starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*), yellow wagtail (*Motacilla flava*), bullfinch (*Pyrrhula pyrrhula*), yellowhammer (*Emberiza citrinella*), reed bunting (*Emberiza schoeniclus*), and corn bunting (*Emberiza calandra*).

3.3.16 Twenty species are included on the red list of birds of conservation concern: grey partridge, hen harrier, Montagu's harrier, lapwing, curlew, Mediterranean gull, turtle dove, swift (*Apus apus*), merlin, skylark (*Alauda arvensis*), starling, fieldfare, house sparrow, tree sparrow, yellow wagtail, linnets (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), yellow hammer, and corn bunting.

3.3.17 Ten are included on the amber list of birds of conservation concern: whooper swan, graylag goose (*Anser anser*), quail, marsh harrier, osprey, snipe (*Gallinago gallinago*), song thrush, redwing, bullfinch, and reed bunting.

3.3.18 Ten are included on the green list of birds of conservation concern: red-legged partridge (*Alectoris rufa*), pheasant (*Phasianus colchicus*), red kite, feral pigeon (*Columba livia*), collared dove (*Streptopelia decaocto*), barn owl, hobby, peregrine, woodlark, and rose-coloured starling (*Pastor roseus*).

3.3.19 The survey area contains suitable habitat for ground-nesting birds. Flocks of up to ten grey partridge were observed in fields either side of the A15. A snipe was flushed from a small area of flooded grassland in the north of the Site. Singing skylarks were also observed in several of the fields within the Site, and in neighbouring fields. Of the species identified through the BDS the arable and grassland habitats within the survey area may also support species including quail, curlew, turtle dove, yellow wagtail, and yellowhammer.

3.3.20 The woodlands and hedgerows within the Site are also likely to provide suitable breeding habitat for a range of species.

Bats

3.3.21 The BDS returned records of the following bat species within 2km of the Site:

- Three records of brown long-eared bat (*Plecotus auratus*) from Ashby de la Launde and Bloxholm Wood;
- One record of common pipistrelle (*Pipistrellus pipistrellus*) from Bloxholm Wood;
- One record of soprano pipistrelle (*Pipistrellus pygmaeus*) from Bloxholm Wood;
- One record of Nathusius's pipistrelle (*Pipistrellus nathusii*) from Bloxholm Wood;
- One record of noctule bat (*Nyctalus noctule*) from Bloxholm Wood;
- One record of barbastelle bat (*Barbastella barbastellus*) from Bloxholm Wood; and
- one record of Whiskered/Brandt's bat (*Myotis mystacinus/brandtii*) from Bloxholm Wood.

3.3.22 Six trees were identified with suitability for roosting bats, all of which are located along the track leading from the A15 to Brauncewell Church. Five were assessed as having high suitability for roosting bats due to the presence of multiple potential roost features. One was assessed as low potential as it was covered in dense ivy.

3.3.23 Most of the Site being arable is of low suitability for foraging and commuting bats. The habitat within the Site was assessed as having low suitability for bats, though the area close to Brauncewell Church has higher suitability due to the presence of old buildings and veteran trees. Throughout the remainder of the Site, the hedgerows and woodlands provide moderately suitable foraging and commuting habitat, though many of the hedgerows are in poor condition and do not extend along the entirety of the field boundaries.

Water voles and otters

3.3.24 The BDS returned one record of water vole at Springwell Brook and no records of otter within 2 km of the survey area.

3.3.25 The ditch within the Site provides sub-optimal habitat for water voles. The ditch and pond are likely to be too small for otter, though they may be used by foraging and commuting individuals. There are no larger streams or rivers, though the ditch within the Site connects to the River Slea which may be used by otter.

Badgers

3.3.26 The BDS returned no records of badger within 2 km of the survey area.

3.3.27 A badger sett with at least four holes was identified within the Site. There were no additional signs of presence e.g. prints or latrines, though the entrances were clear of debris, potentially indicating occasional use. This was considered likely to be a subsidiary sett.

3.3.28 In additional, there are several well-worn mammal paths throughout the Site. However, no further signs of badger activity were found.

Other species

3.3.29 The BDS returned nine records of brown hare within 2 km of the survey area. Five individuals were seen foraging in fields close to Bloxholm Woods.

3.3.30 The BDS returned recorded of the following species: American mink (*Neovison vison*); Chinese muntjac (*Muntiacus reevesi*); grey squirrel (*Sciurus carolinensis*); European rabbit (*Oryctolagus cuniculus*); Fallow deer (*Dama dama*); and European hedgehog (*Erinaceus europaeus*).

3.3.31 The field survey did not record the presence of hedgehog, or of any other animals of nature conservation importance; however, habitats within the survey area, including log piles, scrub, woodland, and grassland were considered to be suitable for hedgehog.

3.3.32 Roe deer (*Capreolus capreolus*) and brown hare were identified in the fields to the east of the A15. A peak count of 15 roe deer and eight brown hare were recorded within the Site to the east of Warren Pit Plantation.

4.0 EVALUATION AND RECOMMENDATIONS

Statutory designated sites

- 4.1.1 There are no international statutory designated sites within 10 km of the survey area. The closest international statutory designated site is 'The Wash' Ramsar/SPA/SAC, approximately 3km from the site. The Wash is designated for wading birds and estuarine habitats. However, being c. 3km from the Site its habitats and bird populations are not expected to be affected by works due to distance and nature of works.
- 4.1.2 There are no nationally protected statutory designated nature conservation sites within 2km and the survey area does not intersect with any SSSI Impact Risk Zones.

Non-statutory designated sites

- 4.1.3 There is one non-statutory designated local wildlife site (LWS) within the Site: 'A15, Slate House Farm to Dunsby Pit Plantation LWS' – which are calcareous grassland roadside verges alongside the A15. The only other sites within 2km are two other LWS sites which are adjacent to the site boundaries, one of which is Bloxham Woods LWS and the other is Temple Road verges LWS (calcareous grassland).
- 4.1.4 Measures should be taken to protect these Local Wildlife Sites from direct damage or from pollution, such as both chemical run-off and dust deposition. In particular, construction traffic may result in dust and pollution impacts to the road verge sites. Impacts of these sites will be assessed within the Environmental statement's implementation of a Construction and Environment Management Plan (CEMP) will detail measures to be taken to protect these sites.
- 4.1.5 These sites could be enhanced through landscaping where the development site runs adjacent to them as part of achieving biodiversity net gain within the development site.

Habitats and plants

- 4.1.6 The Site comprises arable fields of low species-richness, with most plant species found within the site boundary being common and/or widespread.
- 4.1.7 The BAP habitats present within the survey area – namely hedgerows and hedgerow trees, ponds and drains, arable field margins and lowland mixed deciduous woodland - are also of low to moderate species-richness with the majority of plant species present being common and/or widespread. However, these habitats should be retained as far as is possible, protected through the implementation of a CEMP, and enhanced where possible through landscaping.
- 4.1.8 The solar farm design will likely enable the retention of the hedgerows, woodland and individual trees.
- 4.1.9 No invasive species were recorded during the survey. An additional survey should be carried out prior to commencement of construction, with the results informing mitigation measures to be implemented as part of the CEMP.

Protected and other notable species

- 4.1.10 Most of the Site being arable is sub-optimal habitat for reptiles. Woodland, scrub, and taller sward grassland and field margins within the survey area offer more suitable habitat for both common amphibians and reptiles. The areas of taller sward, tussocky, neutral grassland are thought to offer the most suitable areas for foraging, commuting, and basking, whilst wooded and scrub areas offer suitable refuge and hibernation habitat. It is not anticipated that high suitability reptile habitat such as woodlands or large areas of rough grassland will be affected by works. For small areas of suitable reptile habitat, such as field margins or field corners of tussocky grassland then precautionary working methods should be employed to avoid harm, implemented as part of the CEMP.
- 4.1.11 There are five ponds within 500 m of the site boundary, one of which was on Site and four of which were just outside (within 50m) of the site boundary which could not be surveyed. To determine presence/likely absence of great crested newts from these ponds, eDNA surveys will be carried out to determine the presence/absence of great crested newt from these ponds.
- 4.1.12 The woodland, hedgerows, and scrub within the survey area provide suitable habitat for birds, whilst the grassland and arable fields provide suitable habitat for ground nesting species including skylark and lapwing. To identify key nesting areas, particularly for notable bird species, breeding bird species should be carried out between late March and mid-July. Works should avoid the breeding bird season (March to August inclusive) where possible.
- 4.1.13 There were six trees within or adjacent to the Site which offered moderate to high suitability for roosting bats. It is likely that the solar farm design will enable retention of these trees.
- 4.1.14 Most of the Site, being arable, offers low suitability for foraging and commuting bats. Hedgerows, woodlands, watercourses and species-rich grasslands are high suitability habitat for foraging and commuting bats, although it is not expected that these habitats will be significantly affected by the development. To inform bat usage of the Site and to determine any appropriate mitigation in case any suitable habitats may be directly or indirectly affected by the development, bat activity surveys should be carried out by deploying static bat detectors for at least five days per season (i.e., Spring April/May, Summer June-August and Autumn September/October). Bat activity surveys of the wider area were carried out in August and October last year (2022), with another survey planned in April 2023. Surveys last year generally found relatively low bat usage of the wider area by mostly common species, although a small number of barbastelle bat passes (a priority species) were recorded.
- 4.1.15 The ditches within the survey area had little water at time of survey, however they connect to other ditches and watercourses in the wider area and may offer suitable, albeit low quality, habitat for water vole and may potentially be used at night by commuting otter. Should any habitats along or near any watercourses require removal, or be subject to increases in light levels then further consideration for water vole and otter may be required. The design of the solar farm will likely ensure a buffer of at least 5 m from watercourse edges pollution. If this is not possible, further survey for water vole may be required, in particular for any cable crossing routes affecting ditch habitat. Water vole surveys are undertaken between late April and early October. Two surveys need to be

undertaken at least two months apart, following guidance in the Water Vole Mitigation Handbook (Dean et al. 2016).

- 4.1.16 The survey area offers suitable habitat for badgers, including for sett building, and a sett has been identified with the survey area boundary. Although the sett identified did not appear to be recently used it may be used infrequently or may become active again. It is recommended that a pre-construction survey is undertaken within 6 months of the commencement of the development to identify any new badger activity on and within 30 m of site.
- 4.1.17 The survey area provides suitable habitat for brown hare and hedgehog, and potential impacts on such species will be considered within the Environmental Statement.

Summary of further surveys required

4.1.18 The following surveys are likely to be required based on the results of this PEA:

- Breeding bird surveys – at least five visits, to be carried out between late-March and mid-July;
- Bat activity surveys – deployment of static bat detectors in suitable locations throughout the survey area for a period of at least five days per season (in spring, summer and autumn). If no impact to bats is anticipated i.e. bat commuting or foraging habitat will not be affected and no lighting is planned, then the survey effort on Site could be reviewed;
- eDNA survey of the pond on Site and the four ponds adjacent to the site (within 50-100m) (sampling window is between mid April and end of June).
- A pre-construction update badger survey within 6 months of start of works to identify any new badger activity.

4.1.19 The following surveys may be required depending on works impact:

- It is anticipated that high suitability reptile habitat will not be significantly affected by works. However, if any areas of suitable grassland cannot be avoided in the design, reptile surveys may be required;
- Roosting bat surveys – climbing or activity surveys of any trees suitable for roosting bats that will be impacted by the proposed development;
- Water vole surveys of the ditches and streams within the survey area if they will be affected by works or if a 10 m buffer zone cannot be implemented in the design;
- Targeted hedgerow surveys if any sections of hedgerows need to be removed;

Enhancements

A detailed biodiversity design is being produced for the Site. The intention is that the scheme will be biodiversity led with the biodiversity design informing the scheme design. The biodiversity design will include habitat creation and enhancement proposals ensuring the scheme will deliver a significant net gain in biodiversity.

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FIGURES

Figure 1 Site Location Plan
Figure 2 Habitat Map
Figure 3 Pond and GLTA Map



Legend:
 Site Boundary

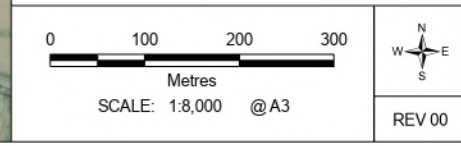


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Springwell Solar Farm - Brauncewell



TITLE: Figure 1:
 Site Location Plan

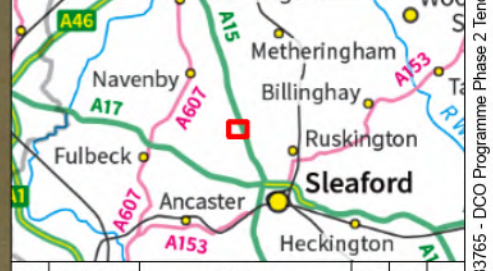




Legend:

- Site Boundary
- UKHab Habitats**
- Cereal Crops
- Neutral Grassland
- Built Linear Features
- Other Woodland, Broadleaved
- Other Woodland, Mixed, Mainly Broadleaved
- Built Linear Feature
- Hedgerow (Priority Habitat)
- Line of Trees
- Target Note
- Secondary Code
- Bat Trees GLTA Point

Secondary Code	Description
11	Scattered Trees
16	Tall Herb
19	Ponds (Priority Habitat)
36	Plantation
37	Semi-Natural Woodland
38	Secondary Woodland
49	Veteran Trees
67	Dry Stone Wall
80	Unmanaged
160	Sward Type Mosaic
10	Scattered Scrub

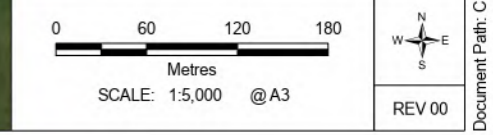


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Springwell Solar Farm - Brauncewell



TITLE: Figure 2:
UKHab Habitat Survey
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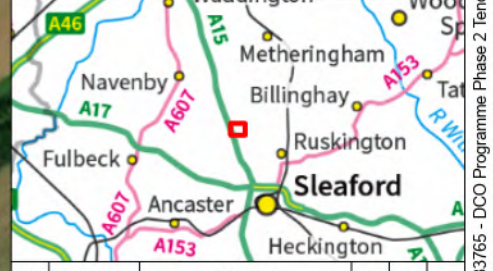


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- Legend:**
- Site Boundary
 - UKHab Habitats**
 - Cereal Crops
 - Neutral Grassland
 - Other Neutral Grassland
 - Standing Open Water and Canals
 - Other Lowland Mixed Deciduous Woodland
 - Other Woodland, Broadleaved
 - Other Woodland, Mixed, Mainly Broadleaved
 - Hedgerow (Priority Habitat)
 - Line of Trees
 - Canal or Ditch
 - Target Note
 - Secondary Code
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Secondary Code	Description
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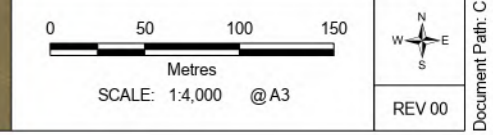


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Springwell Solar Farm - Brauncewell



TITLE: Figure 2:
UKHab Habitat Survey
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APPENDIX A – NATURE CONSERVATION LEGISLATION AND POLICY

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-‘Brexit’, even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force².

The Convention on Biological Diversity 1992 *et seq.*

This multilateral treaty (<https://www.cbd.int/doc/legal/cbd-en.pdf>), signed by 150 government leaders at the 1992 Rio Earth Summit, has three main goals, of which one is the conservation of biological diversity. Article 6 requires countries to develop national biodiversity strategies, plans or programmes. In response, the UK developed the UK Biodiversity Action Plan (BAP) 1994 (<https://jncc.gov.uk/our-work/uk-bap/>) as well as county-specific BAPs. Subsequent to this, parties of the convention agreed the supplementary Nagoya Protocol 2010 (available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>), adopting the Strategic Plan for Biodiversity 2011-2020. The purpose of this Strategic Plan was to provide a framework for establishing national and regional biodiversity targets (<https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>).

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009

<https://www.legislation.gov.uk/eudr/2009/147>

The Birds Directive 2009 relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States (MSs) to which the treaty applies. Under the Birds Directive, the most suitable areas of conservation of the Annex I species are to be designated as Special Protection Areas (SPAs), as part of the European Natura 2000 network. Post Brexit, SPAs are no longer considered part of Natura 2000 and are instead components of the UK’s ‘national site network’, but their highly protected status is unchanged. Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet the UK’s international legal obligations.

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

<https://www.legislation.gov.uk/eudr/1992/43>

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest, which are listed

² Further information relating to England and Wales can be found here: <https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017>. A similar exercise has been undertaken in Scotland and Northern Ireland.

under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

Under the Habitats Directive, EU Member States are required to contribute to the Natura 2000 network through the designation of Special Areas of Conservation (SACs) for natural habitat types listed in Annex I and habitats of species listed in Annex II. Post Brexit, SACs are no longer considered part of the European Natura 2000 network and are instead components of the UK's 'national site network', but their highly protected status is unchanged.

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971: the Ramsar Convention

Accessible via <https://jncc.gov.uk/our-work/ramsar-convention/>

The Ramsar Convention is an intergovernmental treaty focused on the conservation and sustainable use of wetland, primarily as habitats for water birds. Under the convention, each ratified country is required to identify and designate sites (Ramsar sites) that meet the criteria for identifying a wetland of international importance, i.e. containing representative, rare or unique wetland types. In addition, the convention promotes international co-operation to promote the wise use of all wetlands and their resources.

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation³ (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

Accessible via: <https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/#convention-summary>

The Bonn Convention was adopted 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 I 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 II), and by undertaking cooperative

³ In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).
In Scotland: the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).
In Northern Ireland: the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended).
In the UK offshore area: the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS⁴.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979

<https://www.coe.int/en/web/bern-convention>

The principal aims of the Bern Convention 1979 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 III. To this end, the Bern Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. The UK Government ratified the Bern Convention in 1982.

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁵. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

- a) kill, injure or take any wild bird;
- b) take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- c) take or destroy an egg of any wild bird.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

⁴ More information available at <https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats>

⁵ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

- a) disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- b) disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;
- possess or control any live or dead those wild animals or anything derived from it*;
- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;
- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the 'Habitats Regulations' (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the 'Habitats Regulations' (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Natrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)⁶ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Section 16(i) of the Act makes provision for derogation licences to be issued "*for the purposes of preserving public health or public ... safety*". For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁷.

Until recently, there has been no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: "*the incidental result of a lawful operation and could not reasonably have been avoided*" if certain conditions are met.

As a result of the Environment Act 2021, the introduction of the 'overriding public interest' ('OPI') test was added to the licensing purposes in the WCA, from October 2022, though this only applies in England.

⁶ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁷ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017

<https://www.legislation.gov.uk/ukxi/2017/1012> England and Wales

The Habitats Regulations 2017 consolidated the various amendments made to the 1994 Habitat Regulations, which were developed to implement the Birds Directive and Habitats Directive (see above) at a national level, though this consolidation only applies in England and Wales. As noted above, in Scotland and in Northern Ireland, the original versions of the Regulations in each region have been retained and amended to include protections for EPS that were initially provided under the WCA (or its equivalent).

The Regulations (as amended) provide for the designation and protection of the national site network (formerly 'Natura 2000 sites'), the adaptation of planning and other controls for those sites, and the protection of EPS (listed on Schedules 2 and 5).

The 2017 Regulations (England and Wales, Reg. 43) deems it an offence to:

- a) deliberately capture, injure or kill a wild animal of a EPS,
- b) deliberately disturb wild animals of any such species,
- c) deliberately take or destroy the eggs of such an animal, or
- d) damage or destroy a breeding site or resting place of such an animal.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely to:

- a) impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b) to affect significantly the local distribution or abundance of the species to which they belong.

There are also restrictions on transport, possession and sale.

It is possible to obtain a derogation licence from the relevant SNCB⁷ to permit activities which would otherwise contravene the regulations above, including for development purposes, when certain conditions are met. Failure to satisfy the Regulations and obtain a licence where required could result in prosecution and lead to fines and possible imprisonment.

To meet the requirements in Regulation 63(1) [48(1) of the 1994 Regulations in Scotland], an HRA is required (see note in previous section).

Currently (2021), all EPS are also listed on Schedule 5 of the WCA (outlined above), as it applies in England and Wales, though only some clauses of the WCA apply (Section 9 4(b), (c) and 5). EPS often encountered on development sites include GCN (*Triturus cristatus*), all species of bats, dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*).

Countryside and Rights of Way Act 2000

<https://www.legislation.gov.uk/ukpga/2000/37>

The Countryside and Rights of Way (CRoW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Natural Environment and Rural Communities (NERC) Act 2006

<https://www.legislation.gov.uk/ukpga/2006/16>

The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it.

As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act. The lists for England are accessible online via the National Archive⁸; for Wales via <https://www.biodiversitywales.org.uk/>.

The Hedgerows Regulations 1997

<https://www.legislation.gov.uk/uksi/1997/1160/made>

The Hedgerows Regulations 1997 provide protection for 'important' hedgerows for which replanting is not a substitute. The 'importance' of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an 'important hedgerow' without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992

<https://www.legislation.gov.uk/ukpga/1992/51>

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

- a) damage a badger sett or any part of it;
- b) destroy a badger sett;
- c) obstruct access to, or any entrance of, a badger sett;
- d) disturb a badger when it is occupying a badger sett,
- e) intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

Derogation licences may be obtained from the relevant SNCB⁷ under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

⁸

<https://webarchive.nationalarchives.gov.uk/ukgwa/20140712055944/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>

The Wild Mammals (Protection) Act 1996

<https://www.legislation.gov.uk/ukpga/1996/3>

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

Invasive Alien Species (Enforcement and Permitting) Order 2019

(<https://www.legislation.gov.uk/uksi/2019/527/contents/made>)

The Invasive Alien Species (Enforcement and Permitting) Order applies principally in England and Wales and the UK's offshore marine area, but also controls imports and exports from the UK (including Scotland and Northern Ireland). It lists species of concern which cannot be imported, kept, bred/grown, transported, sold, used, allowed to reproduce, or released into the environment. This Order replaces some elements relating to invasive species in the Wildlife and Countryside Act 1981 (as amended).

National, regional and local policy and guidance of relevance

Planning policy relating to ecology and nature conservation is set out below.

National Planning Policy Framework 2021

Access via: <https://www.gov.uk/government/publications/national-planning-policy-framework-2>

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance

Accessed via: <https://www.gov.uk/government/collections/planning-practice-guidance>

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (<https://www.gov.uk/guidance/environmental-impact-assessment>) and the Natural Environment (<https://www.gov.uk/guidance/natural-environment>). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

Government's 25-Year Environment Plan 2018

Accessed via: <https://www.gov.uk/government/publications/25-year-environment-plan>

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or

restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

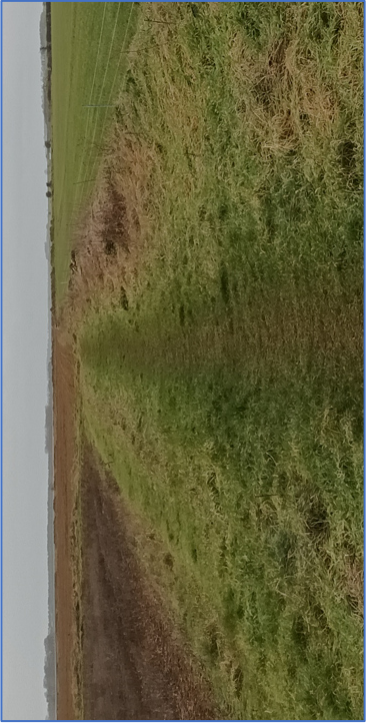

APPENDIX B – NOTEWORTHY SPECIES RECORDS



Table 6 displays noteworthy species records that are located within 2 km of the site boundary. These species records were obtained from Greater Lincolnshire Nature Partnership. The scientific and common names for species are given as well as their level of designation. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.



Latin Name	Common Name	Designation	Most Recent	Within 100m
Birds				
<i>Anser anser</i>	Greylag Goose	WCA1.2, Amber	2021	
<i>Circus aeruginosus</i>	Marsh Harrier	WCA1.1, Amber	2012	
<i>Circus cyaneus</i>	Hen Harrier	WCA1.1, S41, Red, GB RDB(VU)	2011	
<i>Circus pygargus</i>	Montagu's Harrier	WCA1.1, Red, GB RDB(CR)	2008	
<i>Coturnix coturnix</i>	Quail	WCA1.1, Amber	2020	
<i>Cygnus cygnus</i>	Whooper Swan	WCA1.1, Amber, GB RDB(EN)	2013	
<i>Falco columbarius</i>	Merlin	WCA1.1, Red, GB RDB(EN)	2019	
<i>Falco peregrinus</i>	Peregrine	WCA1.1	2019	
<i>Falco subbuteo</i>	Hobby	WCA1.1	2018	
<i>Fringilla montifringilla</i>	Brambling	WCA1.1	2003	
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull	WCA1.1, Amber	2009	
<i>Lullula arborea</i>	Woodlark	WCA1.1, S41, GB RDB(VU)	2014	
<i>Milvus milvus</i>	Red Kite	WCA1.1	2021	<input checked="" type="checkbox"/>
<i>Pandion haliaetus</i>	Osprey	WCA1.1, Amber	2014	
<i>Turdus iliacus</i>	Redwing	WCA1.1, Amber, GB RDB(CR)	2021	
<i>Turdus pilaris</i>	Fieldfare	WCA1.1, Red, GB RDB(CR)	2019	
<i>Tyto alba</i>	Barn Owl	WCA1.1	2003	
Fungus				
<i>Battarrea phalloides</i>	Sandy Stiltball	WCA8, S41	2020	
Mammals				
<i>Arvicola amphibius</i>	European Water Vole	WCA5, S41, GB RDB(EN)	2014	
<i>Barbastella barbastellus</i>	Western Barbastelle	EPS(Sch2), WCA5, S41, GB RDB(VU)	2015	
<i>Chiroptera</i>	Bat	EPS(Sch2)	2020	
<i>Myotis daubentonii</i>	Daubenton's Bat	EPS(Sch2), WCA5	2015	



Latin Name	Common Name	Designation	Most Recent	Within 100m
<i>Myotis mystacinus/brandtii</i>	Whiskered/Brandt's Bat	EPS(Sch2), WCA5	2015	
<i>Nyctalus noctula</i>	Noctule Bat	EPS(Sch2), WCA5, S41	2015	
<i>Pipistrellus nathusii</i>	Nathusius's Pipistrelle	EPS(Sch2), WCA5	2015	
<i>Pipistrellus pipistrellus sensu stricto</i>	Common Pipistrelle	EPS(Sch2), WCA5	2015	
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	EPS(Sch2), WCA5, S41	2015	
<i>Plecotus auritus</i>	Brown Long-eared Bat	EPS(Sch2), WCA5, S41	2015	



APPENDIX C – TARGET NOTES



Target Note	Description	Photograph
Target Note 1	<p>Uncultivated margins of neutral grassland approximately 0.5-1.5m wide line the perimeter of most of the fields within the Site. These areas typically have a longer, tussocky sward. The species assemblage varies in term of herb species but broadly comprise grass species including cock's-foot (<i>Dactylis glomerata</i>), false oat grass (<i>Arrhenatherum elatius</i>), red fescue (<i>Festuca rubra</i>), perennial rye grass (<i>Anisantha sterilis</i>), rough meadow-grass (<i>Anisantha sterilis</i>), and Yorkshire-fog (<i>Holcus lanatus</i>). Herb species included shepherd's purse (<i>Capsella bursa-pastoris</i>), dandelion (<i>Taraxacum officinale agg.</i>), cow parsley (<i>Anthriscus sylvestris</i>), ribwort plantain (<i>Plantago lanceolata</i>), yarrow (<i>Achillea millefolium</i>), nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>), lesser celandine (<i>Ficaria verna</i>), white clover (<i>Trifolium repens</i>), and daisy (<i>Bellis perennis</i>).</p>	
Target Note 2	<p>A wide area of neutral grassland margin between a hedgerow and arable field. The sward was short and broadly comprised perennial rye grass, annual meadow grass, cock's foot, Yorkshire fog, and red fescue. Herb species included ribwort plantain, cow parsley, yarrow, and white clover.</p>	



Target Note	Description	Photograph
<p>Target Note 3</p>	<p>Area to the west of Church View cattery. This area has a longer, tussocky sward with young self-set trees at the centre. Grass species present included cock's foot, red fescue, barren brome (<i>Bromus sterilis</i>), perennial rye grass, and Yorkshire fog. Herb species included lesser celandine, yarrow, and cow parsley.</p>	
<p>Target Note 4</p>	<p>The area to the east of the cattery (TN4) contains a similar species assemblage as TN3 with several veteran trees including sycamore, pedunculate oak, and sweet chestnut.</p>	


Target Note	Description	Photograph
Target Note 5	<p>Bloxholm Woods is adjacent to the Site in the north-east corner. The wood is a Lincolnshire Wildlife Trust reserve. It is dominated by ash and sycamore with occasional horse chestnut and pedunculate oak.</p>	
Target Note 6	<p>Warren Pit Plantation is located along the northern boundary of the Site. A line of cypresses has been planted along the western edge though the wood is mainly comprised of sycamore and ash. The understorey consists of dense nettle and bramble with scattered hawthorn and elder.</p>	



Target Note	Description	Photograph
<p>Target Note 7</p>	<p>A narrow strip of plantation woodland is also present towards the southwest of the Site to the north of Brauncewell quarry. It is dominated by ash and sycamore with occasional pedunculate oak and a sparse understorey of ivy and nettle.</p>	
<p>Target Note 8</p>	<p>A much younger strip of plantation woodland extends along the eastern edge of the quarry. It appears to have been planted within the last 20 years and consists of rows of sycamore, field maple, hazel, hawthorn, and ash.</p>	

Target Note	Description	Photograph
<p>Target Note 9</p>	<p>A small area of secondary woodland is present to the south of Brauncewell Cottages that has grown on the site of Dunsby Pit. It is dominated by ash and sycamore with occasional oak and a dense understorey of bramble, ivy, and hawthorn.</p>	
<p>Target Note 10</p>	<p>The area of grassland to the west of the cattery (TN3) contains a small area of young self-set trees, with species including ash, sycamore, and pedunculate oak. Grass at the base of the trees is long and tussocky with scattered areas of ivy and bramble scrub.</p>	

Target Note	Description	Photograph
<p>Target Note 11</p>	<p>An outgrown hedgerow over 5m tall lines the northern boundary of the Site along the road leading to Temple Bruer. It is predominantly comprised of hawthorn, blackthorn, ash, and sycamore with dense bramble and ivy.</p>	
<p>Target Note 12</p>	<p>An outgrown hedgerow over 4m tall lining the north-eastern boundary to the south of Bloxholm Wood. It is comprised of ash, field maple, hawthorn, and blackthorn with dense bramble, dog rose, and ivy.</p>	

Target Note	Description	Photograph
Target Note 13	A line of mature beech trees along the road leading to Brauncewell church	
Target Note 14	Hawthorn and blackthorn hedgerow along the track leading towards Brauncewell Church, containing semi-mature and mature ash, sycamore, and beech trees.	

		Photograph	
Target Note	Description		
Target Note 15	A large patch of mixed scrub, consisting of blackthorn, hawthorn, elder, and bramble, lines on the fields along the boundary of with the A15.		
Target Note 16	A large pond in the south-east of the Site which is heavily shaded by numerous mature willows and surrounded by scrub. There were few macrophytes and the water appeared partially turbid. It is connected at the south-west corner and at the northern end by slow-flowing ditches.		

Target Note	Description	Photograph
<p>Target Note 17</p>	<p>Ditch running from the western boundary of the cattery in the south-east of the Site towards the pond (TN16). It was largely dry, though it held water towards the eastern end. No aquatic plants were visible.</p>	
<p>Target Note 18</p>	<p>A ditch running north from the pond then flowing east towards the adjacent field. Slightly deeper than TN17 and held water, with a slow flow towards the northern end. No aquatic plants were visible. The ditch was bordered by broadleaved trees including sycamore, ash, and pedunculate oak.</p>	

APPENDIX D - LOCAL WILDLIFE SITES CITATIONS

A15, Slate House Farm to Dunsby Pit Plantation



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Grid ref: TF030542 – TF037520
Length: 2.4 km

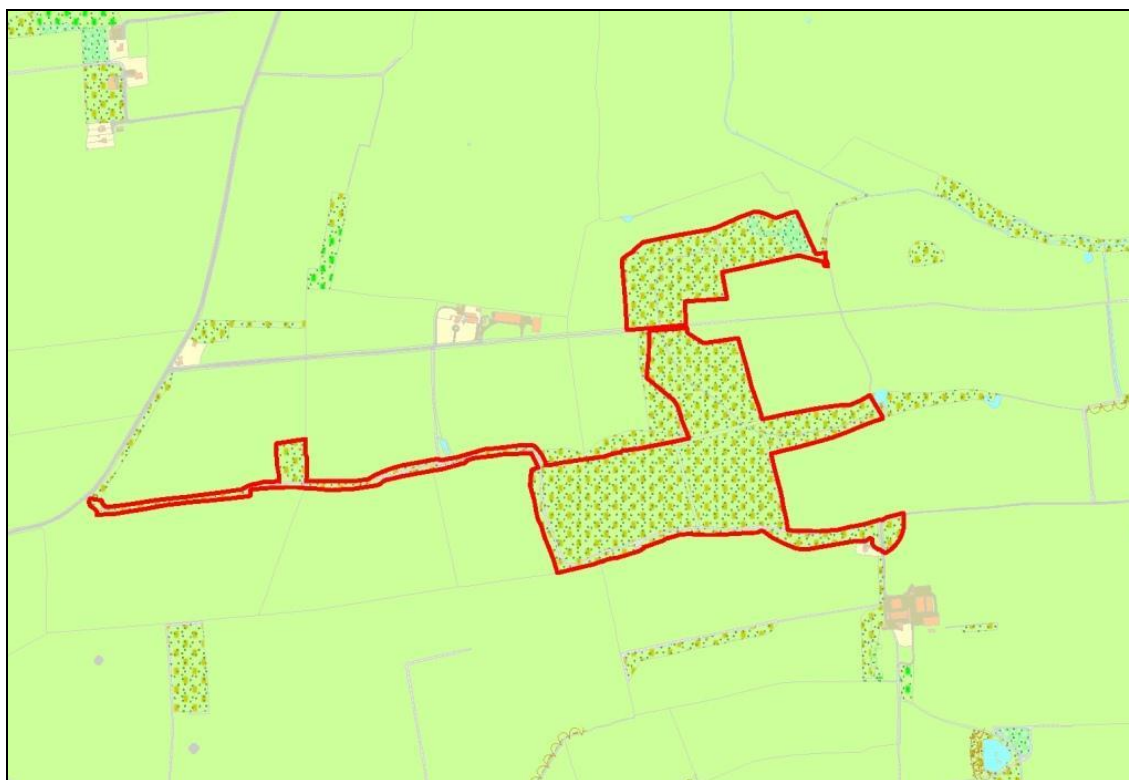
Survey: 2011/12
Surveyor: LotV

Main habitat: Calcareous grassland

This site was surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge project.

Criteria passed: CG1, Mos2
Selected as a Local Wildlife Site: 18 March 2013

Bloxholm Wood



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Grid ref: TF047534

Survey: 31 May 2013

Area: 29.9 ha

Surveyor: J.Fraser

Main habitat: Semi-natural woodland

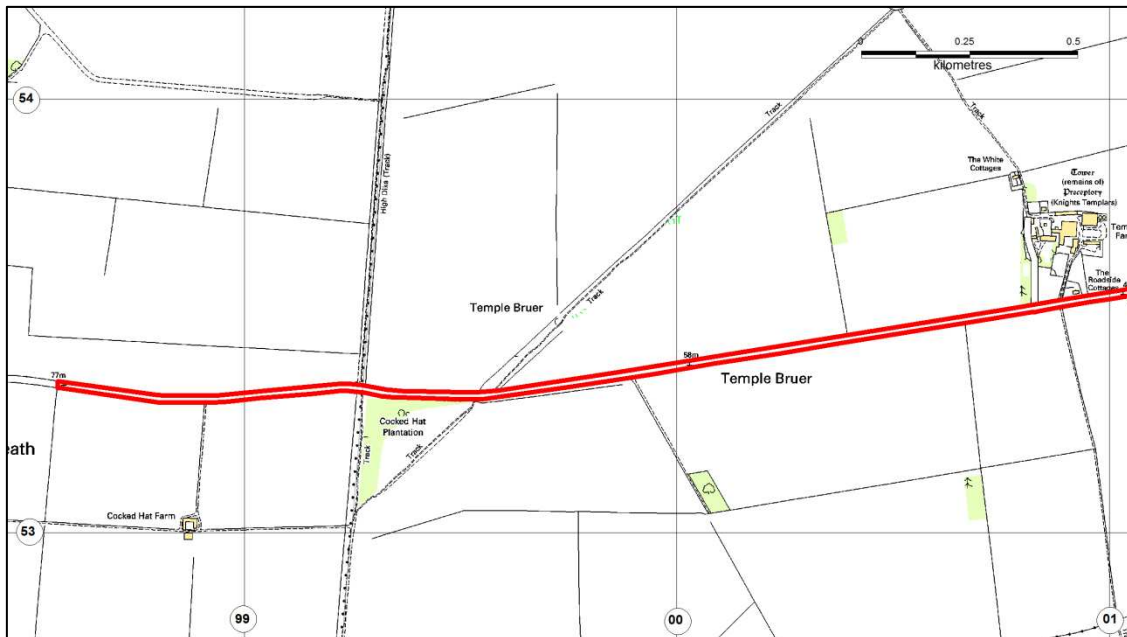
Additional habitat: Bracken, Scrub - scattered / dense, Ditch

This is a woodland nature reserve incorporating Long Plantation, The Oaks, Spruce Covert, Four Acre Plantation, The Thorns, and the major part of both Ten Acre Plantation and The Mount.

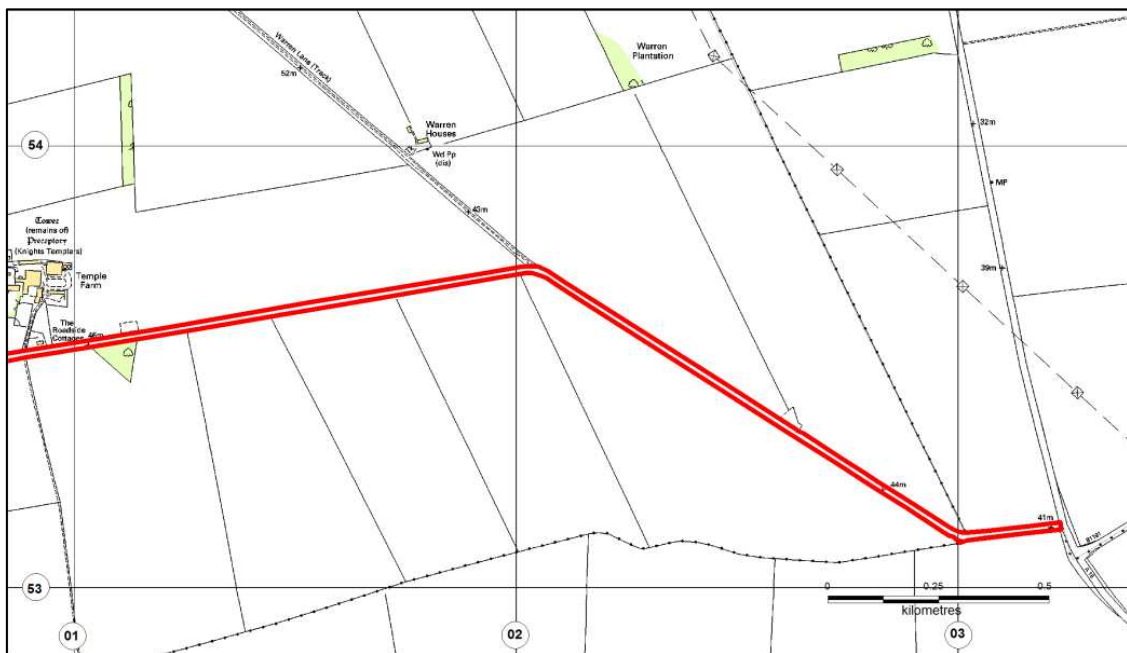
The western element of the site is Long Plantation, a 1km long and 10-25m wide strip of woodland lying on both sides of a track that extends eastwards from the B1191 to Ten Acre Plantation and beyond. Also included is a wooded and partially in-filled small former quarry on the north side of the track. The diverse flora includes many planted or naturalised trees and shrubs, but native woody species include ash, elm, wild cherry, holly, wild privet, hawthorn, Midland hawthorn, hybrid hawthorn, field maple, blackthorn, dog-rose, ivy and elder. Others of more artificial origin are lime, beech, horse chestnut, sycamore, apple, laburnum, lilac and wayfaring tree. In the former quarry and nearby can be found a major population of early purple-orchid; around 500 flowering spikes were counted during the survey. Also of some note is a clump of goldilocks just east of the quarry, while other ground flora species include cowslip, three-veined sandwort, sweet violet, wood avens, herb-Robert, wood dock, hairy-brome and false brome; the bluebells are not native.

Lying between Long Plantation to the west and Spruce Covert in the east are Ten Acre Plantation and the The Oaks. A track within the site extends from the north-western corner to the south-eastern corner, following a course close to western and southern edges of the woodland. The southern fringe holds much sycamore, whereas ash and

Temple Road Verges, Welbourn to Brauncewell



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Grid ref: SK985533 – TF032531
Length: 4.9 km

Survey: 2010
Surveyor: LotV

Main habitat: Calcareous grassland

This verge was identified and surveyed as part of the Lincolnshire Wildlife Trust's Life on the Verge Project.

Criteria passed: CG1, Mos2
Recommended as a Local Wildlife Site: 1 April 2011



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