Created Life Three (Bicester) Ltd

Land at Skimmingdish Lane, Bicester

Preliminary Ecological Appraisal

2480586

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RSK biocensus
EXPERTS IN ECOLOGY

RSK GENERAL NOTES

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EXECUTIVE SUMMARY

- This report presents the results of a combined preliminary ecological appraisal (PEA) carried out at land near Skimmingdish Lane, Bicester, Oxfordshire. RSK Biocensus carried out the survey to assess the ecological value of the site and identify its suitability for protected animal species, habitats and plants.
- This report was commissioned by Created Life Three (Bicester) Ltd to inform proposals to develop part of the site as a commercial outlet. A biodiversity assessment report was commissioned to gauge the biodiversity baseline of the site and its potential for post-development improvement.
- There are no statutory designated sites within 1 km of the site boundary and no internationally designated sites within 10 km. The site intersects the impact risk zones of several SSSIs in the wider area but this will not give rise to any consequences for the project as the proposed development type is not listed in the risk zone guidance.
- The site consists of common grassland, scrub and woodland habitats in poor or moderate condition.
- As the footprint of the proposed development is relatively small (less than 20% of the site area), and the habitats are in poor to moderate condition, there is a potential for improvement to the biodiversity value of the site with the institution of a sympathetic management regime.
- No further surveys are recommended. However, vegetation clearance should be carried out under a watching brief by a qualified ecologist to avoid harm to nesting birds and reptiles and a sympathetic lighting plan is recommended to avoid light pollution impacts on foraging bats.
- The works area, plus a 30 m buffer, should be searched for badger holes by a qualified ecologist immediately prior to the commencement of works. Excavated areas should be covered or provided with a means of escape for trapped animals.
- One species of invasive non-native plant (Yellow Archangel) on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was found. Recommendations for its eradication are given in the conclusions.

CONTENTS

TABLES

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, ecological walkover and subsequent evaluation of the biodiversity value of land at Skimmingdish Lane, Bicester (grid reference SP 600 233).

1.1.2 The report identifies habitats and species found during the survey, as well as records of protected species from the wider area identified during the background data search (BDS). The PEA was carried out on behalf of Created Life Three (Bicester) Ltd by RSK Biocensus in March/April 2021.

1.2 Landscape context

1.2.1 The land at Skimmingdish Lane is on the northwestern edge of Bicester, an Oxfordshire town undergoing significant expansion following its 2014 designation as a 'Garden Town' (Bicester Vision, 2017). The site is a 1.16 ha parcel of greenfield land in an area which has seen substantial development over the past decade, with a large production and distribution hub to the north and a busy industrial estate to the southwest.

1.2.2 Land to the east and south is predominantly arable, and a small stream fed by field drains can be found *c.*500 m from the southern tip of the site. The land is in the catchment area of the River Cherwell, and the majority of it is in flood zone 3b.

1.3 Development proposals

1.3.1 A 1800 ft^2 commercial unit is proposed along the north-western margin of the site, with a 28 space car park to the south-west. This development footprint sits mostly above the flood zone, with the exception of some of the car park.

2.0 METHODS

2.1 General

2.1.1 The preliminary ecological appraisal (PEA) was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (2017), which indicates that A PEA normally involves:

- a desk study (gathering information from national websites; local record centres, councils, local wildlife groups, published material, previous reports etc.) here called a background data search (BDS)
- a field survey having a scope that includes some form of habitat mapping, assessment of the possible presence of protected or priority species and the likely importance of habitat features and notes including mapping of any incidental sightings of non-native invasive plant species and protected or priority mammal species.

2.1.2 The PEA results provide an ecological description of the site and information about species that may occur there. It either allows evaluation of the ecological importance of the site, or - if insufficient to do so - indicates what further surveys are needed.

2.1.3 The habitat survey (including habitat assessment for protected species) was carried out by Pete Flood and Sophie Elliot on 23 March 2021 using UKHab methodology. Pete and Sophie are consultant ecologists at RSK with four years and three years experience respectively.

2.1.4 The weather during the survey was mostly overcast but dry, with an air temperature of 8° C and a wind speed of 5 mph.

2.2 Background Data Search

2.2.1 A search was made in October 2020 for reference materials relating to the ecology of the Skimmingdish Lane site, and a list of sources is given in *Table 1*.

Table 1: Data Sources

Information Obtained	Available From
Protected and noteworthy species-records	Thames Valley Environmental Records Centre
Designated site locations and citations	Natural England website
Designated site locations and citations	Thames Valley Environmental Records Centre
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 BAP website https://www.wildoxfordshire.org.uk/biodiversity/conservation-target-areas/oxfordshires-ctas-to-download/

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 sites (often important in a local context) within 1 km of the site boundary. The search was extended to 10 km for internationally designated sites. A search was also made for records of noteworthy species within 1 km of the site boundary. Species included in the search parameters were:

- 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 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 Habitat survey using UKHab methodology

2.3.1 The habitat survey was based on the UKHab habitat classification approach (UKHab, 2018) as extended in its Professional Edition. This involves the following elements:

- Classification of habitats using 3-4 figure primary codes and numeric secondary codes.
- Habitat mapping using a set of standard colour codes to indicate habitat types on a phase 1 habitat map (Figure 2).
- Description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the habitat map, called 'target notes'. These are provided in Appendix B.

2.3.2 UKHab habitat survey methods are described in The UK Habitat Classification User Manual Version 1.1 (Butcher *et al.*, 2020). Limits to the achievable reliability of habitat classification methods (with a focus on Phase 1 methodology) are discussed in Cherrill & McClean (1999).

2.3.3 As part of a separate Biodiversity Assessment Report (RSK Biocensus, 2021), the condition of the habitats were assessed as good, moderate or poor, using criteria from The Biodiversity Metric 2.0 Technical Supplement (Crosher, 2019).

2.3.4 Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant. Plant names in the text are given with scientific names first, followed by the English name in brackets. Names of mosses and liverworts follow Hill et al. (2008).

2.4 Invasive Non-Native Plant Species

2.4.1 Habitat survey at the level involved here does not involve exhaustive surveying for any individual plant species. But if invasive plant species were seen during the normal course of the survey e.g. *Reynoutria japonica* (Japanese Knotweed), *Heracleum mantegazzianum* (Giant Hogweed), *Impatiens glandulifera* (Himalayan Balsam), they were noted and reported here.

2.5 Assessing the Value of Habitats

2.5.1 The scientific value of habitats for nature conservation is assessed according to widely accepted criteria of which the most important are naturalness, extent, rarity, and diversity. These and others are described in an extensive literature (e.g. Ratcliffe 1977, Usher 1986). In addition, the following criteria were used:

- Whether habitats are included on a list of priority habitat types that has been published in connection with UK implementation of the EC 'Habitats Directive'. Other important habitats and species are identified in National Biodiversity Action Plans (UK BAP website: www.ukbap.org.uk).
- Special importance attaches to ancient semi-natural habitats that depend for their survival on traditional types of land management, especially where these have suffered large reductions over the last seventy years due to agricultural intensification. Habitats in these categories are discussed in Rackham (1986).

2.6 Habitat Assessment for Protected Species

2.6.1 General

2.6.2 The suitability of the site for the protected animals that are likely to occur in the area was assessed. Taking into account the location and habitats at the site, assessment was carried out for:

- badgers;
- bats;
- birds;
- great crested newts; and
- reptiles.

2.6.3 Further details of the assessment methods are given below.

2.6.4 Badgers

2.6.5 An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for commuting, foraging and sett-building on the site and within 30 m of the site boundary (where access was possible). The site was systematically searched.

2.6.6 Bats

2.6.7 Habitats were assessed for their suitability for foraging and commuting bats. Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and species-rich or rough grassland.

2.6.8 Birds

2.6.9 Habitats on the site were assessed for their suitability for foraging and nesting birds. Birds nest in a wide variety of habitats including scrub, woodland, hedges and trees, as well as on buildings or open ground.

2.6.10 Great crested newts

2.6.11 Although standing water is essential for their breeding, great crested newts (*Triturus cristatus*) are terrestrial for most of the year, and have been recorded up to 500 m from their breeding ponds. Therefore, the suitability of the site both for terrestrial and breeding great crested newts was assessed. Suitable breeding ponds are well-vegetated, relatively clean and unpolluted, largely free of fish and wildfowl, and likely to retain water throughout most (but not necessarily all) summers. Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, though great crested newts can be found in a broad range of sub-optimal habitats as well. Habitat suitability for other amphibians was also assessed.

2.6.12 Reptiles

2.6.13 The site was assessed for reptiles, with particular attention to 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).

2.6.14 The site was assessed for its suitability for each of the four common reptile species. Specific habitat requirements differ between species. Common lizards (*Lacerta vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland. Slow-worms (Anguis fragilis) use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land. Grass snakes (*Natrix natrix*) have broadly similar requirements to common lizards with a greater reliance on ponds and wetlands, where they prey on Common Frogs (*Rana temporaria*). Adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath (Beebee & Griffiths 2000).

2.7 Validity of Data

2.7.1 Data collected for submissions to the Local Planning Authority are usually valid up to two years following the field survey. Should construction works not have commenced within two years, then an update preliminary ecological appraisal may be needed.

2.8 Constraints and limitations

2.8.1 The survey was not carried out during the optimal period for phase 1 habitat surveys (April to September). It is therefore possible that some plant species were missed because they were not in evidence (present as seeds or underground parts) or because they were inconspicuous or impossible to identify. An experienced botanist can name most of what is in evidence, and the survey was sufficient to indicate the general botanical character of the habitats present.

2.8.2 The preliminary view as to whether protected species might occur on the site is based on the suitability of habitat, the known distribution of relevant species in the local area (from on-line sources and desk study) and any signs of the relevant species noted. It does not constitute a full and definitive survey of any protected species group.

2.8.3 While most of the site (and the entirety of the area within the proposed development footprint) was accessible, some small areas of scrub proved impenetrable.

3.0 RESULTS

3.1 Background Data Search

3.1.1 Biodiversity Action Plans

3.1.2 The latest Oxfordshire Local Biodiversity Action Plan (LBAP) does not list habitat action plans (HAPs) or species action plans (SAPs). Instead conservation target areas (CTAs) are used to deliver BAP targets at a landscape scale. There are currently 38 CTAs in Oxfordshire. The nearest CTA, the Ray CTA *c.*910 m south of the site boundary, is an alluvial floodplain of the River Ray extending along a number of small tributary streams and including some areas of land between these streams. Important habitats include lowland meadow, floodplain grazing marsh, reedbeds, ponds, hedgerows and rivers.

3.1.3 Designated Sites

Statutory Sites

3.1.4 There are no statutory designated sites within 1 km of the site boundary.

Internationally Designated Sites

3.1.5 There are no internationally designated sites within 10 km of the site boundary.

SSSI Impact Risk Zones

3.1.6 There are several SSSIs in the wider area, and the site intersects their impact risk zones (IRZs), but the proposed development is not of a type that matches specified types in respect of which the planning authority is recommended to consult with Natural England (the special types reflect sensitivities at particular SSSIs and may therefore differ from one search-location to another).

Non-statutory Sites

3.1.7 There are two non-statutory designated sites within 1 km of the site boundary, both of which are local wildlife sites (LWS). The sites are listed in Table 2 along with their proximity to the site boundary and a short description (if available).

Table 2: Non-statutory sites within 1 km of the site boundary

Site Name	Designation	Approximate Distance (m)
Bicester Airfield	LWS	420
The site is an airfield and surrounding areas of grassland and scrub. It includes areas of species-rich grassland and rough grassland around the periphery of the short-mown grassland used as runways. There are also several old track ways that are breaking up and have an interesting range of plants.		

Site Name	Designation	Approximate Distance (m)
Gavray Drive Meadows	LWS	910
These meadows form a mosaic of small damp fields with ponds, divided by thick hedges with old trees. Most of the fields are probably former hay meadows over medieval ridge and furrow field patterns.		

Other Notable Sites

3.1.8 There are no areas of ancient woodland within 1 km of the site boundary.

3.1.9 Protected and Noteworthy Species

3.1.10 At least 106 noteworthy species are recorded from places within 1 km of the site boundary. Of these, 4 are amphibians, 34 are birds, 52 are invertebrates, 11 are mammals, 2 are plants and 3 are reptiles. Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017, Schedules 2, 5 and 8 of The Wildlife and Countryside Act 1981 or The Protection of Badgers Act 1992 and have been recorded in the search area are listed in the table below (excluding species protected only against collection for sale); a full species list is given in Appendix C.

Table 3: Protected species records within 1 km of the site boundary

Latin Name	Common Name	Designation	Most Recent	Within 100m	Within 1km
Amphibians					
Triturus cristatus	Great Crested Newt	EPS (Sch2), WCA5	2016		☒
Birds					
Alcedo atthis	Kingfisher	WCA1.1	2003	☒	☒
Falco subbuteo	Hobby	WCA1.1	2006	P	P
Milvus milvus	Red Kite	WCA1.1	2016	P	☒
Tringa ochropus	Green Sandpiper	WCA1.1	2016		P
Turdus iliacus	Redwing	WCA1.1	2016		☒
Turdus pilaris	Fieldfare	WCA1.1	2013		P
Tyto alba	Barn Owl	WCA1.1	2013		P
Invertebrates					
Euphydryas aurinia	Marsh Fritillary	WCA5	2006		P

Latin Name	Common Name	Designation	Most Recent	Within 100m	Within 1km
Mammals					
Arvicola amphibius	European Water Vole	WCA5	2000		☒
Eptesicus serotinus	Serotine	EPS(Sch2), WCA5	2015		☒
Meles meles	Eurasian Badger	BA	2016		☒
Myotis	Myotis Bat species	EPS(Sch2), WCA5	2015		☒
Nyctalus leisleri	Lesser Noctule	EPS(Sch2), WCA5	2015		☒
Nyctalus noctula	Noctule Bat	EPS(Sch2), WCA5	2015		☒
Pipistrellus pipistrellus	Common Pipistrelle	EPS(Sch2), WCA5	2015		☒
Pipistrellus pygmaeus	Soprano Pipistrelle	EPS(Sch2), WCA5	2015		☒
Plecotus	Long-eared Bat species	EPS(Sch2), WCA5	2013		☒
Plecotus auritus	Brown Long-eared Bat	EPS(Sch2), WCA5	2017		☒
Reptiles					
Anguis fragilis	Slow-worm	WCA5	2009		☒
Natrix helvetica	Grass Snake	WCA5	2016		☒
Zootoca vivipara	Common Lizard	WCA5	2016		☒

Note - P relates to records with 4 figure or tetrad grid references that could potentially be anywhere within a 1 km or 2 km square.

3.2 UK HAB Habitat Survey

3.2.1 The survey identified three broad habitat types; scrub, grassland and woodland. These were divisible into further categories depending on species composition and condition. *Figure 2* shows a detailed site map of the habitats present. A summary of the habitats present is given in *Table 4* below, while *Table 5* explains secondary codes used in the survey.

Table 4: Habitats present, with secondary codes and condition assessments

Broad habitat	Subdivision	UKHab code	Secondary codes	Condition assessment
Grassland	*Arrhenatherum* neutral grassland	g3c5	10 11 16 17 47 48 80 140 148 161 195	Poor

Scrub	Blackthorn scrub	h3a	16 47 80	Poor
	Bramble scrub	h3d	16 47 80	Poor
	Mixed scrub	h3h	16 47 48 57 80	Moderate
Woodland	Line of trees	w1g6	16 37 47 48 57 80 159	Moderate
	Other broadleaved woodland types	w1g7	38 48 57 80	Poor

Table 5: Explanations of UKHab secondary codes used in the survey

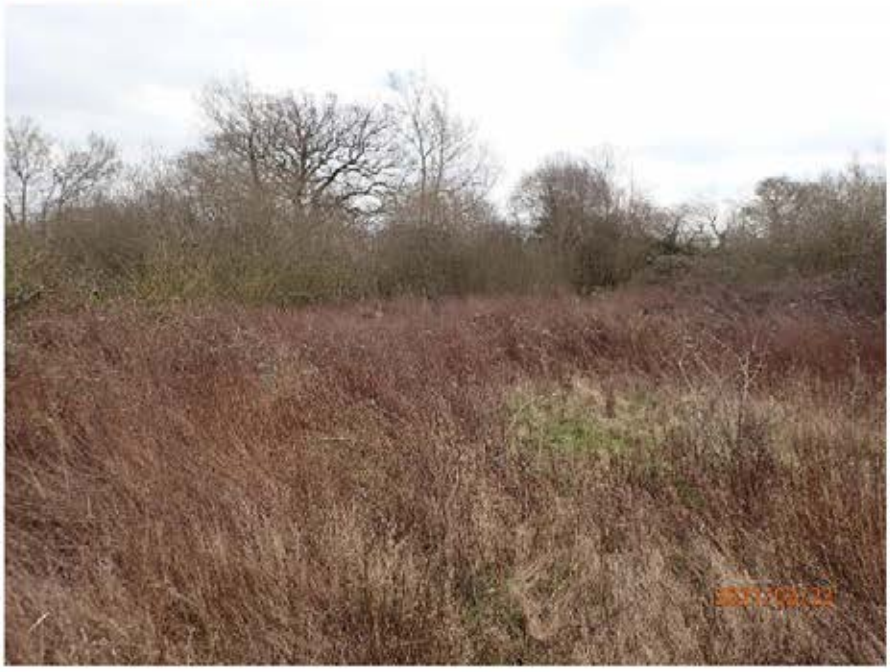
Secondary code	Definition
10	Scattered scrub: Used for non-woodland habitats that contain small areas of scattered scrub.
11	Scattered trees: Non-woodland areas that contain low densities of tree species with <20% canopy cover.
16	Tall herb: Used to denote the presence of stands of tall perennial herbs such as Common Nettle (*Urtica dioica*) and Rosebay Willowherb (*Chamaenerion angustifolium*).
17	Ruderal/ephemeral: Ruderal and ephemeral plants are adapted to grow in areas of heavy disturbance and/or stress such as footpath edges, and are typically small and fast-growing, completing their life cycle quickly in order to better survive adverse conditions.
37	Semi-natural woodland: Woodland composed of trees which have arisen naturally, without human interference.
38	Secondary woodland: Woodlands that have regrown on abandoned or neglected ground.
47	Native: Composed predominantly of species which are within their natural distribution.
48	Non-native: Composed predominantly of species which have been introduced by human action outside their natural distribution.
57	Young trees – self-set: Areas containing tree seedlings or saplings of natural regeneration origin.
80	Unmanaged: Lacking evidence of any management.
140	Anthills: Vegetated mounds of soil created by ants.
148	Flower forage abundant: Wildflower-rich open habitats.

Secondary code	Definition
159	Standing dead wood abundant: More than 20 standing dead trees per hectare, some of which are larger than 40 cm diameter.
161	Tall or tussocky sward: Swards in grassland providing nectar, pollen, foodplants, seeds, dead seed heads and prey items for invertebrates and bird species.
195	Seed forage abundant: Seed-rich open habitats.

3.2.2 *Arrhenatherum* neutral grassland (g3c5)

3.2.3 The main part of the site is covered by a patchy mosaic of grassland and scrub, and even areas designated as grassland have occasional scrubby plants such as Sweet-briar (*Rosa rubiginosa*), Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*). Stands of tall herbs are also common on scrub margins and field boundaries. Common Nettle (*Urtica dioica*) is common throughout the site, while species such as Rosebay Willowherb (*Chamaenerion angustifolium*), Teasel (*Dipsacus fullonum*) and Lupin (*Lupinus* sp.) are more localized in their distribution. *Target Note* 3 highlights a large population of Michelmas-daisy (*Symphyotrichum* sp.) in an area of eastern grassland.

Plate 1: Michelmas-daisies, looking south towards the line of trees on the southeastern margin.



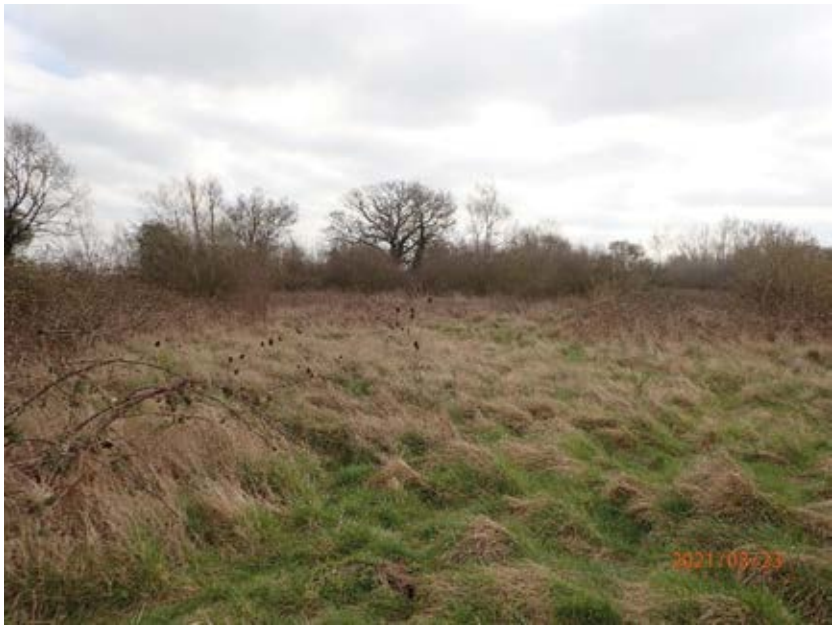
3.2.4 False Oat-grass (*Arrhenatherum elatius*) is ubiquitous in grassland habitats across the site, presenting a sward 10-30 cm high. Comparatively few other grasses are present including Common Couch (*Elymus repens*), Red Fescue

(*Festuca rubra*) and a few tussocks of Tufted Hair-grass (*Deschampsia cespitosa*).

3.2.5 For the most part the broadleaved species present are those robust enough to compete with rank grasses. These include scramblers such as Cleavers (*Galium aparine*) and Common Vetch (*Vicia sativa*), and early bloomers such as Daffodil (*Narcissus pseudonarcissus*), Sweet Violet (*Viola odorata*) and Colt's-foot (*Tussilago farfara*). The site's position on urban margins is suggested by a number of species with probable garden origins, including Blackcurrant (*Ribes nigrum*), Lupin and Garden Star-of-Bethlehem (*Ornithogalum umbellatum*). Only in a few places such as path sides and anthills is the sward at all short, and here can be found a few ruderal species: Common Whitlowgrass (*Erophila verna*), Hairy Bittercress (*Cardamine hirsuta*) and Common Field-speedwell (*Veronica persica*).

3.2.6 Few mosses are present in the grassland habitats, and then only small quantities of robust weft and turf-forming species. These include *Brachythecium rutabulum*, *Calliergonella cuspidata* and *Rhytidiadelphus squarrosus.*

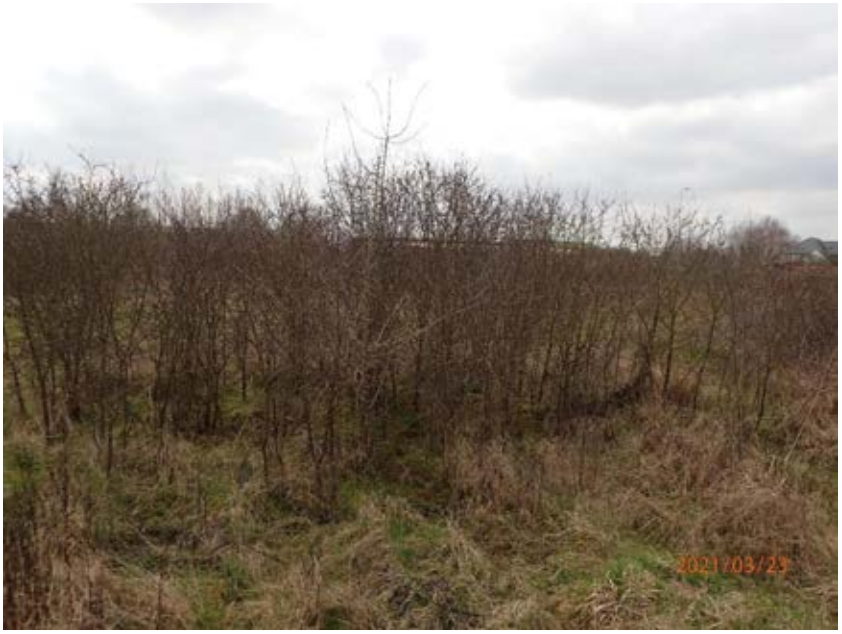
Plate 2: Grassland on the west side of the site, looking south.



3.2.7 Blackthorn scrub (h3a)

3.2.8 In the central part of the site there are a couple of stands of almost pure Blackthorn (*Prunus spinosa*) of a similar age and height. The ground flora in these stands is species-poor, with some False Oat-grass (*Arrhenatherum elatius*), Common Nettle (*Urtica dioica*), Bramble (*Rubus fruticosus* agg.) and Ground-ivy (*Glechoma hederacea*).

Plate 3: Central stand of Blackthorn scrub.



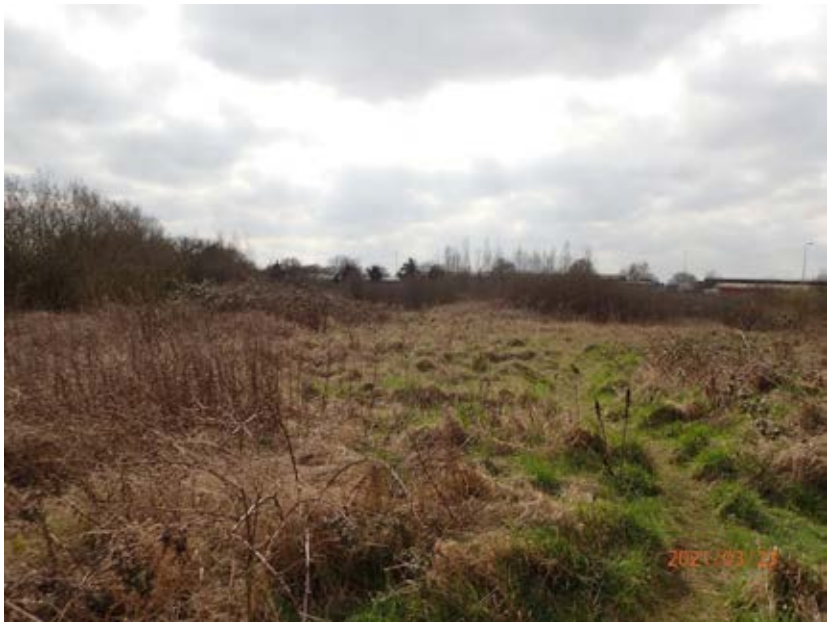
3.2.9 Bramble scrub (h3d)

3.2.10 Bramble is a common plant across the site, but only in the central section and on the northern margins does is it become the dominant species. Its loose, arching structure allows enough light for a range of tall herbs such as Teasel (*Dipsacus fullonum*), Cow Parsley (*Anthriscus sylvestris*) and Perforate St-John's-wort (*Hypericum perforatum*). The non-native species Cut-leaf Bramble (*Rubus laciniatus*), a garden escape, occurs on the northeastern margin of the site.

3.2.11 Mixed scrub (h3h)

3.2.12 The majority of scrub across the site is a mixture of species, including Elder (*Sambucus nigra*), Dog-rose (*Rosa canina*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Bramble (*Rubus fruticosus* agg.) of a range of ages and heights, with a few saplings of Ash (*Fraxinus excelsior*), Spindle (*Euonymus europaeus*) and Field Maple (*Acer campestre*) in most stands. False-acacia (*Robinia pseudoacacia*) is locally-frequent in the north (see *Target Note* 1), and Grey Willow (*Salix cinerea*) is a constituent of scrubland in the eastern corner. Stands of mixed scrub are often bordered by a margin of tall herbs including Nettle (*Urtica dioica*), Curled Dock (*Rumex crispus*), Broadleaved Dock (*Rumex obtusifolius*), Wood Dock (*Rumex sanguineus*) and Teasel (*Dipsacus fullonum*).

Plate 4: Looking west across the site – a mosaic of grassland and scrub.



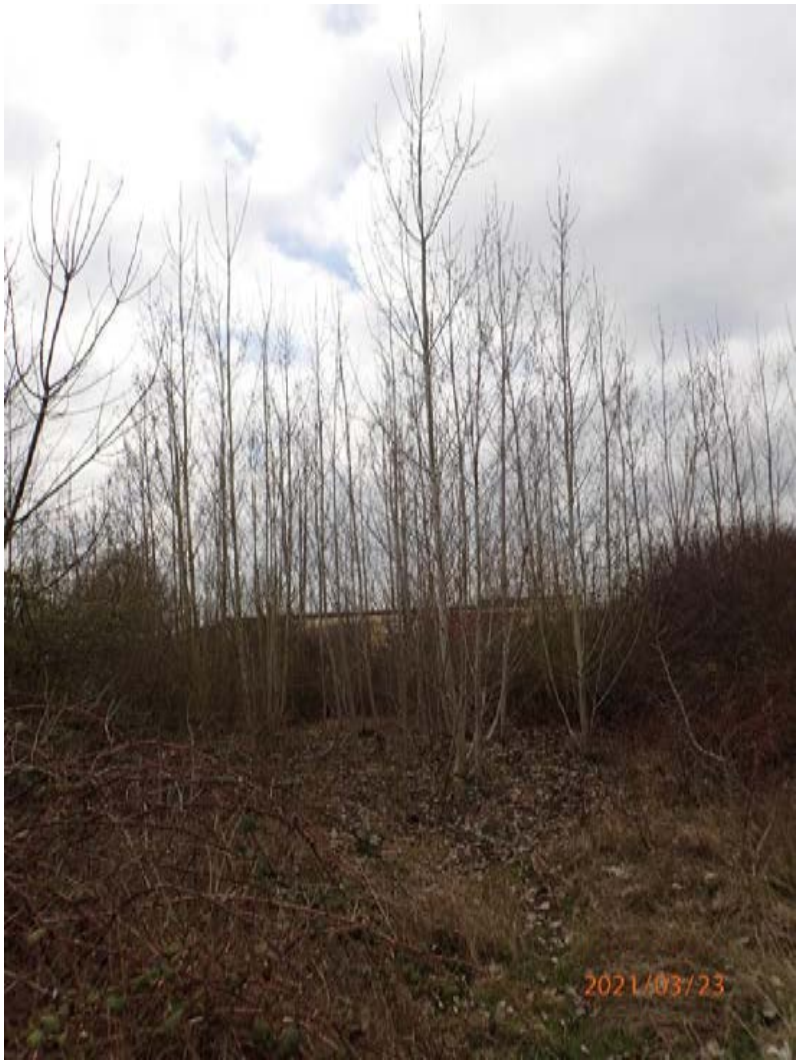
3.2.13 Line of trees (w1g6)

3.2.14 A woodland footpath on the southeastern margin is bordered by a line of Crack-willow (*Salix × fragilis*). As they are all the same species, these trees are possibly of planted origin, but over time they have seeded extensively, while dropped limbs have rooted and sent up new growth, a practice typical of this species. This has created a belt of woodland which, while not species-rich, has a good range of age and height classes, with lots of standing dead wood hosting fungi species such as Turkeytail (*Trametes versicolor*) and Hairy Bracket (*Trametes hirsuta*). The shrub layer is comprised of sparse trees of Elder, and a single large, rambling plant of Many-flowered Rose (*Rosa multiflora*), while the field layer has a dense growth of Ivy (*Hedera helix*), with some patches of Ground-elder (*Aegopodium podagraria*) and Rough Meadow-grass (*Poa trivialis*). A patch of Variegated Yellow Archangel (*Lamiastrum galeobdolon* ssp. *argentatum*) is flourishing in the southeast where mixed scrub grades into woodland (*Target Note* 3).

3.2.15 Other broadleaved woodland types (w1g7)

3.2.16 A patch of land on the site's western margin has been colonized by a dense growth of saplings and trees of Lombardy Poplar (*Populus nigra* 'italica') (*Target Note* 6). These are male trees, unable to set seed, but capable of producing numerous suckers. Few herbaceous species can survive under their dense shade and heavy leaf drop, but there are some Ash and Field Maple saplings amongst the Poplars.

Plate 4: Lombardy Poplars at the western site boundary.



3.2.17 Invasive non-native species

3.2.18 One invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was recorded during the survey: Variegated Yellow Archangel (*Lamiastrum galeobdolon*) has formed a patch in the southeast of the site. False-acacia (*Robinia pseudoacacia*), a species on Schedule 9 in Scotland only, has formed a grove of suckers on the northwestern margin of the site.

3.3 Protected Species

3.3.1 Badgers

[redacted]

3.3.3 Bats

3.3.4 There are records of several bat species within 1 km of the site boundary, the most recent being from 2017. The species recorded include serotine (*Eptesicus serotinus*), Myotis species (*Myotis*), lesser noctule (*Nyctalus leisleri*), common noctule (*Nyctalus noctule*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and long-eared bat species (*Plecotus*) including brown long-eared (*Plecotus auratus*). The site likely provides good foraging and commuting opportunities for bats in the open rough grassland and tree line along the eastern boundary.

3.3.5 Nesting birds

3.3.6 There are significant opportunities for nesting birds on the site in the extensive dense bramble scrub and the woodland strip. The rough grassland may provide nesting opportunities for ground-nesting birds.

3.3.7 Great crested newts

3.3.8 There are records of great crested newts from within 1 km of the site boundary, the most recent being from 2016. There are no ponds on the site and a search of OS maps revealed no suitable waterbodies within 500 m of the site (the standard radius for a GCN waterbody to be considered relevant to a site). The rough grassland and scrub on site provide suitable terrestrial habitat for GCN.

3.3.9 Reptiles

3.3.10 There are records of reptiles within 1 km of the site boundary including slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*) and common lizard (*Zootoca vivipara*). The most recent records were for grass snake and common lizard in 2016. The rough grassland and scrub habitat on site provide opportunities for both common lizards and slow-worms. The lack of freshwater bodies nearby makes the site less suitable for grass snakes.

3.3.11 Other species of principal importance

3.3.12 There are no records of hedgehogs within 1 km of the site; however the surrounding hedgerows and woodland strip may provide suitable foraging and commuting habitat.

4.0 EVALUATION

4.1 Designated sites

4.1.1 Statutory sites

4.1.2 Due to their distance from the site and the limited scope of the proposed works, there will be no impacts on any designated sites from the proposed development

4.2 Habitats

4.2.1 Value of habitats

4.2.2 The habitats within the survey area provide valuable ecological functions and increase connectivity within the wider landscape but are themselves common, and no scarce or endangered plant species or communities were encountered during the survey. Areas of scrub provide opportunities for nesting birds, and refuge for other animals, while rough grassland can be used by a wide range of animals for shelter and foraging.

4.2.3 Grassland areas were deemed to be in poor condition because of the dominance of False Oat-grass, low densities of broadleaved herbs and the high frequency of undesirable species. Sympathetic future management could increase the flower and seed forage value of these areas while lessening the hold of rank grasses and species such as Nettle and Bramble.

4.2.4 Mixed scrub areas are in moderate condition, containing a range of species of different ages and heights, but some pernicious weeds.

4.2.5 Bramble and Blackthorn scrub areas lack species diversity, and consist of plants of a similar age. They have therefore been classed as ‘poor’ in the condition assessment.

4.2.6 Similarly, the area of woodland in which Lombardy Poplar is dominant has been assessed as ‘poor’ due to its lack of diversity.

4.2.7 The line of trees on the south-eastern margin has a diverse age and height structure but is species-poor and has some encroachment of invasive non-native species. It is in a moderate condition.

4.2.8 There are significant opportunities within the site for enhancement of the biodiversity value of the habitats present. Sympathetic future management could increase the flower and seed forage value of the grassland areas as well as removing or reducing some areas of scrub and woodland where diversity is low or undesirable species are present.

4.2.10 Invasive non-native species

4.2.11 Variegated Yellow Archangel (*Lamiastrum galeobdolon* ssp. *argentatum*) is a sprawling woodland herb in the Dead-nettle family (Lamiaceae). It is commonly found on wooded verges on urban fringes, whether from the dumping of garden waste or as an intentional introduction. While it does set viable seed, its predominant means of colonisation is via stolons which root at the nodes, enabling it to spread at a rate of 1-2 m per year. It can carpet areas to the exclusion of other plants, but on this site it is co-dominant with Ivy.

4.2.12 Eradication of this species is easily achieved by manual means. Removal should be carried out annually until the plant is eradicated.

4.2.13 False-acacia (*Robinia pseudoacacia*) is a species of tree in the Pea family (Fabaceae), capable of creating large groves by suckering. It also sets viable seed in large pods, which can disperse a short distance by wind action. Like many legumes it fixes nitrogen into the soil though root nodules, and it can cause eutrophication as a result. While not subject to regulation by legislation in England and Wales it shows invasive tendencies in Continental Europe, which may in the future be exacerbated in this country by climate change. It also sits within the footprint of proposed development and could prove costly and troublesome to eradicate prior to the commencement of works.

4.2.14 Eradication solely through mechanical means can cause an increase in suckering, so this should be combined with chemical control by operatives trained in the eradication of this plant.

4.2.15 Variegated Yellow Archangel is on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to cause it to grow in the wild. Further guidance can be found online at: Guidance on section 14 of the Wildlife and Countryside Act, 1981. (Defra, 2010).

4.3 Protected species

4.3.1 Badgers

4.3.2 Though no signs of badgers were found on site during the survey, badgers may establish new main setts or outlier setts so the area should be checked for badger holes within 30 m of the works area prior to commencement of works. It is considered good practice to cover any excavations overnight to prevent mammals from becoming trapped. If it is not possible to cover excavations, an egress route should be provided to allow animals to climb out of excavations.

4.3.3 Bats

4.3.4 The site is likely to provide important foraging and commuting opportunities for bats in the open rough grassland and tree line along the eastern boundary; therefore, it is recommended that a sensitive lighting schemes should be utillised during and after development to maintain dark commuting corridors. Additional enhancement opportunities could include the planting of trees on site and the management of existing grassland increase floristic diversity to attract invertebrates, which bats prey on. Because no potential roosting features (e.g.

trees and buildings) are due to be impacted by the proposals no further surveys are required.

4.3.5 Nesting birds

4.3.6 The site is likely to provide important nesting opportunities for birds. All birds, their nests and eggs are protected under the Wildlife and Countryside Act, making it an offence to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore, clearance of vegetation should be carried out outside of the nesting bird season (February to August inclusive) where possible. If vegetation does need to be cleared during the nesting season, it will have to be checked for nests by an ecologist immediately prior to clearance. If nests are found, they must be retained (with a suitable, species-specific buffer established from the works) and protected from damage until the young have fledged.

4.3.7 Great crested newts

4.3.8 There are no ponds on site and a search of OS maps revealed no suitable waterbodies within 500 m of the site. Additionally, the A4421 and stream running parallel to the site's eastern boundary are likely to be minor barriers to GCN in the area. As there are no ponds on site or within 500m, no further surveys are required for GCN. In the unlikely event that GCN are found during construction, works must stop, and an ecologist should be consulted.

4.3.9 Reptiles

4.3.10 The site provides suitable habitat for slow-worms, grass snake and common lizard but is likely to provide important opportunities for common lizards which favour open and exposed habitats close to dense cover. As much of the suitable reptile habitat is due to be retained under the proposals, no further surveys for reptiles are needed. It is likely that reptiles are present on site in low density, therefore it is recommended that vegetation clearance works follow a precautionary method and are supervised by a suitably experienced ecologist to ensure no reptiles are killed or injured.

4.3.11 Other species of principal importance

4.3.12 Hedgehogs may be present in the local vicinity as the surrounding hedgerows and woodland provide suitable habitat for foraging and commuting. Although it is not likely that hedgehogs will be present on-site during construction, it is considered good practice to cover any excavations over night to prevent small mammals from becoming trapped. If it is not possible to cover excavations, an egress route should be provided to allow animals to climb out of excavations.

5.0 CONCLUSIONS

5.1.1 The site consists of common grassland, scrub and woodland habitats in poor or moderate condition.

5.1.2 Protected species using the site could include badgers, bat species, reptile species and nesting birds.

5.1.3 Scrub and vegetation clearance should be done under a watching brief from a qualified ecologist to avoid potential harm to nesting birds and reptiles.

5.1.4 The works area plus a 30 m buffer should be checked for badger holes immediately prior to commencement of works.

5.1.5 No further surveys are needed for bats, although the use of a bat-sensitive lighting scheme is recommended.

5.1.6 No further surveys for protected species are recommended at this time.

5.1.7 It is recommended that plants of Variegated Yellow Archangel are eradicated. This can be done in a more extensive manner during the course of routine habitat management.

5.1.8 Although False-acacia is not a species covered by legislation in England, it is in Scotland. There is some suspicion that it may exhibit invasive behaviour, and a risk that it may be added to Schedule 9 of the Wildlife and Countryside Act (1981) during the lifetime of the project. There could therefore be a case for considering the eradication of saplings on a precautionary basis.

5.1.9 As the footprint of the proposed development is relatively small (less than 20% of the site area), and the habitats are in poor to moderate condition, there is a potential for improvement to the biodiversity value of the site with the institution of a sympathetic management regime.

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FIGURES

459500 460000 460500

224000

223500

223000

Legend:

Site boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Dm	Chk	App
00	25/06/2021	2480586	SP	RG	PF

Skimmingdish Lane

RSK biocensus
EXPERTS IN ECOLOGY

TITLE: Figure 1:

Site Location Plan

0 90 180
Meters
SCALE: 1:5,000 @ A3

N W E S

REV 00

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Contains OS data © Crown Copyright and database right 2020

Document Path: U:\Ecology\2480000s\2480500s\2480586 - Skimmingdish Lane\07 GIS\2480586-Fig1 Site Loc Plan.mxd

459900 460000 460100 460200

223400

223300

1 2 3 4 5 6

Legend:

- Site boundary

UKHAB Classification

- Arrhenatherum neutral grassland
- Blackthorn scrub
- Bramble scrub
- Mixed scrub
- Line of trees
- Other broadleaved woodland types
- Target note

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Dm	Chk	App
00	25/06/2021	2480586	SP	RG	PF

Skimmingdish Lane

RSK biocensus
EXPERTS IN ECOLOGY

TITLE: Figure 2:

UKHAB Survey

0 20 40
Meters
SCALE: 1:1,000 @ A3

N W E S

REV 00

Document Path: U:\Ecology\2480000s\2480500s\2480586 - Skimmingdish Lane\07 GIS\2480586-Fig2 UKHAB.mxd

APPENDIX A – TARGET NOTES

Target Note 1 – Scrub: A *c.* 6x6 m area of scrub dominated by dense, suckering False-acacia (*Robinia pseudoacacia*), grading into mixed scrub with Blackthorn (*Prunus spinosa*) and saplings of Ash (*Fraxinus excelsior*). The field layer is short and species-poor within this area, with a belt of tall herbs on the margins including Teasel (*Dipsacus fullonum*), Common Nettle (*Urtica dioica*) and Hogweed (*Heracleum sphondylium*). *Robinia pseudoacacia* (False-acacia) is listed on schedule 9 of the Wildlife and Countryside Act (1981) and it is an offence to cause it to grow in the wild.

Target Note 2 – Woodpile: a pile of partially-burned logs. This fire site is now overgrown and the logs have developed a patchy growth of Capillary Thread-moss (*Bryum capillare*) and Grey-cushioned Grimmia (*Grimmia pulvinata*) This area could provide a refugium for reptiles using the grassland for basking and foraging.

Target Note 3 – Tall Herb: an area in which the dominant species is a Michelmas-daisy (*Symphyotrichum* species), a genus which is difficult to identify to species level with certainty when at its peak in late summer, and impossible at the time of this survey, when all that remains are dead stalks. These plants are patch-forming aliens but not classed as invasive non-native plants. Any invasive tendency is generally outweighed by the valuable nectar source that they provide at a time when little else is flowering.

Target Note 4 – Invasive non-native plant: a *c.* 3x3 m patch of the invasive species Variegated Yellow Archangel (*Lamiastrum galeobdolon* ssp. *argentatum*), co-dominant with Common Ivy (*Hedera helix*) on the margins of the line of trees on the southwestern boundary. This plant is on Schedule 9 of the Wildlife and Countryside Act (1981) and it is an offence to cause it to grow in the wild. It often arises on urban margins from dumped garden waste, or from seeds brought in on the footwear of walkers. It spreads vegetatively by means of long arching stolons, and can become a locally-abundant constituent of the field layer.

Target Note 5 – Anthills: a *c.* 2x2 m area with a small number of anthills of yellow meadow-ant (*Lasius flavus*) were seen. The disturbance and microtopographic variation introduced by these structures can increase the floristic diversity of grasslands, although it is an open question whether this species can survive on a flood plain in the long term.

Target Note 6 – Plantation Woodland: a *c.* 15 x 15 m area of woodland dominated by suckering trees and saplings of Lombardy Poplar (*Populus nigra* 'italica'). The only other woody species found in this area are occasional saplings of Field Maple (*Acer campestre*) and Ash (*Fraxinus excelsior*), and the ground flora is inhibited by dense leaf litter dropped by the Poplars, with only a few plants of Ground-ivy (*Glechoma hederacea*) and False Oat-grass (*Arrhenatherum elatius*) in evidence.

APPENDIX B – PLANT SPECIES LIST

Subjective estimates of the relative abundance of species in selected habitat parcels were added to the plant species list using a modified DAFOR scale. The DAFOR scale ranks species according to their relative abundance in a given parcel of land as follows: D – dominant, A – abundant, F – frequent, O – occasional, R – rare. In addition, the following prefixes are used: L – locally, V – very. The terms 'abundant' and 'rare' are used by convention, and apply only to relative-abundance within the recorded area. It does not mean that species are 'rare' in the general sense. In the table below 'P' refers to obviously planted trees or shrubs.

***Table A1*: Plant species recorded in the main habitat areas at Skimmingdish Lane during the survey on 23rd March 2021.**

Name	Grassland	Scrub/Woodland
Woody species		
Acer campestre (Field Maple)		R
Crataegus monogyna (Hawthorn)		O
Euonymus europaeus (Spindle)		R
Fraxinus excelsior (Ash)		R
Populus nigra 'italica' (Lombardy Poplar)		LD
Prunus spinosa (Blackthorn)		F
Ribes nigrum (Black Currant)	O	
Robinia pseudoacacia (False-acacia)		LA
Rosa arvensis (Field-rose)		R
Rosa canina (Dog-rose)	R	R
Rosa multiflora (Many-flowered Rose)		R
Rosa rubiginosa (Sweet-briar)	O	
Rubus laciniatus (Cut-leaved Bramble)	R	
Rubus fruticosus agg. (Bramble)	F	F
Salix caprea (Goat Willow)		R
Salix cinerea (Grey Willow)		O
Salix fragilis (Crack-willow)		LF
Sambucus nigra (Elder)	O	O
Herbaceous species		
Aegopodium podagraria (Ground-elder)	O	O
Anthriscus sylvestris (Cow Parsley)	R	O
Arrhenatherum elatius (False Oat-grass)	A	R
Arum maculatum (Lords-and-Ladies)		O
Artemisia vulgaris (Mugwort)	R	
Ballota nigra (Black Horehound)	R	
Cardamine flexuosa (Wavy Bitter-cress)	R	
Carex spicata (Spiked Sedge)	R	
Centaurea nigra s.l. (Common Knapweed)	R	

Chamaenerion angustifolium (Rosebay Willowherb)	LA	
Cirsium arvense (Creeping Thistle)	O	
Cirsium vulgare (Spear Thistle)	R	
Cruciata laevipes (Crosswort)	R	
Dactylis glomerata (Cock's-foot)	O	
Daucus carota (Wild Carrot)	R	
Deschampsia cespitosa (Tufted Hair-grass)	R	R
Dipsacus fullonum (Teasel)	O	
Elytrigia repens (Common Couch)	R	
Epilobium sp. (a Willowherb)	O	
Erophila verna (Common Whitlowgrass)	R	
Ervilia hirsuta (Hairy Tare)	R	
Festuca rubra (Red Fescue)	R	
Ficaria verna (Lesser Celandine)	R	
Galanthus nivalis (Snowdrop)	R	
Galium aparine (Cleavers)	O	O
Geranium molle (Dove's-foot Crane's-bill)	R	
Geum urbanum (Wood Avens)	R	R
Glechoma hederacea (Ground-ivy)	R	O
Hedera helix (Ivy)		F
Heracleum sphondylium (Hogweed)	R	R
Hypericum perforatum (Perforate St John's-wort)	R	
Jacobaea vulgaris (Common Ragwort)	R	
Lamiastrum galeobdolon ssp. *argentatum* (Variegated Yellow Archangel)		LF
Lamium album (White Dead-nettle)	O	
Lapsana communis (Nipplewort)	R	
Leucanthemum vulgare (Oxeye Daisy)	R	R
Lupinus sp. (a Lupin)	LF	
Myosotis arvensis (Field Forget-me-not)	R	
Narcissus pseudonarcissus (Daffodil)	R	
Ornithogalum umbellatum (Garden Star-of-Bethlehem)	R	
Potentilla reptans (Creeping Cinquefoil)	R	
Primula vulgaris (Primrose)	R	
Prunella vulgaris (Selfheal)	R	
Ranunculus repens (Creeping Buttercup)	O	
Rumex acetosa (Common Sorrel)	R	
Rumex crispus (Curled Dock)	R	
Rumex obtusifolius (Broad-leaved Dock)	O	O
Rumex sanguineus (Wood Dock)	R	R

Silene × hampeana (Hybrid Campion)	R	
Stellaria media (Common Chickweed)	R	
Symphyotrichum sp. (a Michelmas-daisy)	LA	
Symphytum × uplandicum (Russian Comfrey)	O	
Taraxacum sect. *Ruderalia* (Common Dandelion)	R	
Tussilago farfara (Colt's-foot)	R	
Urtica dioica (Common Nettle)	O	O
Veronica persica (Common Field-speedwell)	R	
Vicia sativa (Common Vetch)	R	
Viola odorata (Sweet Violet)	O	
Bryophytes		
Brachythecium rutabulum (Rough-stalked Feather-moss)	O	O
Bryum capillare (Capillary Thread-moss)	R	
Calliergonella cuspidata (Pointed Spear-moss)	R	
Grimmia pulvinata (Grey-cushioned Grimmia)	R	
Kindbergia praelonga (Common Feather-moss)	F	F
Orthotrichum affine (Wood Bristle-moss)	R	
Rhytidiadelphus squarrosus (Springy Turf-moss)	O	

APPENDIX C– NOTEWORTHY SPECIES RECORDS

Table A2 displays noteworthy species records that are located within 1 km of the site boundary. These species records were obtained from Thames Valley Environmental Records Centre. The Latin and common names for species are given as well as their level of designation. A glossary defining abbreviations used in the table is given in *Table A3, Appendix D*. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but rather that data-holding organisations do not have records of it in these locations.

Table A2: Noteworthy species records within 1 km of the site boundary

Latin Name	Common Name	Designation
Amphibians		
Bufo bufo	Common Toad	WCA5, S41
Lissotriton vulgaris	Smooth Newt	WCA5
Rana temporaria	Common Frog	WCA5
Triturus cristatus	Great Crested Newt	EPS(Sch2), WCA5, S41
Birds		
Alauda arvensis	Skylark	S41, Red
Alcedo atthis	Kingfisher	WCA1.1, Amber
Anthus pratensis	Meadow Pipit	Amber
Apus apus	Swift	Amber
Chroicocephalus ridibundus	Black-headed Gull	Amber
Columba oenas	Stock Dove	Amber
Cuculus canorus	Cuckoo	S41, Red
Delichon urbicum	House Martin	Amber
Dendrocopos minor	Lesser Spotted Woodpecker	S41, Red
Egretta garzetta	Little Egret	Amber
Emberiza calandra	Corn Bunting	S41, Red
Emberiza citrinella	Yellowhammer	S41, Red
Emberiza schoeniclus	Reed Bunting	S41, Amber
Falco subbuteo	Hobby	WCA1.1
Falco tinnunculus	Kestrel	Amber
Larus argentatus	Herring Gull	S41, Red
Larus canus	Common Gull	Amber
Larus fuscus	Lesser Black-backed Gull	Amber

Latin Name	Common Name	Designation
Linaria cannabina	Linnet	S41, Red
Milvus milvus	Red Kite	WCA1.1, Amber
Motacilla cinerea	Grey Wagtail	Red
Passer domesticus	House Sparrow	S41, Red
Phylloscopus trochilus	Willow Warbler	Amber
Pluvialis apricaria	Golden Plover	Amber
Prunella modularis	Dunnock	S41, Amber
Pyrrhula pyrrhula	Bullfinch	S41, Amber
Scolopax rusticola	Woodcock	Red
Streptopelia turtur	Turtle Dove	S41, Red
Sturnus vulgaris	Starling	S41, Red
Tringa ochropus	Green Sandpiper	WCA1.1, Amber
Turdus iliacus	Redwing	WCA1.1, Red
Turdus philomelos	Song Thrush	S41, Red
Turdus pilaris	Fieldfare	WCA1.1, Red
Tyto alba	Barn Owl	WCA1.1, Amber
Invertebrates		
Acronicta rumicis	Knot Grass	S41
Adscita statices	Forester	S41
Agabus (Agabus) uliginosus	A Beetle	Notable:B
Apamea anceps	Large Nutmeg	S41
Apamea remissa	Dusky Brocade	S41
Bembidion (Semicampa) gilvipes	A Beetle	Notable:B
Caradrina morpheus	Mottled Rustic	S41
Catapion pubescens	A Beetle	Notable:B
Ceramica pisi	Broom Moth	S41
Chiasmia clathrata	Latticed Heath	S41
Coenonympha pamphilus	Small Heath	S41
Diarsia rubi	Small Square-spot	S41
Ecliptopera silaceata	Small Phoenix	S41
Euphydryas aurinia	Marsh Fritillary	WCA5, S41, GB RDB(VU)
Helophorus (Trichohelophorus) alternans	A Beetle	NS, Notable:A
Hepialus humuli	Ghost Moth	S41
Hylaeus (Abrupta) cornutus	Spined Hylaeus	Notable:A
Larinus planus	A Beetle	Notable:B

Latin Name	Common Name	Designation
Lasioglossum (Evylaeus) malachurum	Sharp-collared Furrow Bee	Notable:B
Lasius brunneus	Brown Tree Ant	Notable:A
Leucania comma	Shoulder-striped Wainscot	S41
Longitarsus dorsalis	A Beetle	Notable:B
Longitarsus parvulus	Flax Flea Beetle	Notable:A
Lythraria salicariae	Loosestrife Flea Beetle	Notable:B
Meligethes rotundicollis	A Beetle	Notable
Merzomyia westermanni	A True Fly	Notable
Micropeza lateralis	A True Fly	Notable
Oxystoma cerdo	A Beetle	Notable:B
Philonthus fumarius	A Beetle	Notable:B
Phyllobius (Phyllobius) vespertinus	A Beetle	Notable:B
Phytoecia cylindrica	A Beetle	Notable:B
Podagrica fuscicornis	Mallow Flea Beetle	Notable:B
Pyrgus malvae	Grizzled Skipper	S41, GB RDB(VU)
Pyrochroa coccinea	Black-headed Cardinal Beetle	Notable:B
Rhinocyllus conicus	A Beetle	Notable:A
Sapromyza opaca	A True Fly	Notable
Satyrium pruni	Black Hairstreak	WCA5, GB RDB(EN)
Satyrium w-album	White-letter Hairstreak	WCA5, S41, GB RDB(EN)
Scotopteryx chenopodiata	Shaded Broad-bar	S41
Sepedophilus pedicularius	A Beetle	Notable
Spilosoma lubricipeda	White Ermine	S41
Spilosoma lutea	Buff Ermine	S41
Squamapion cineraceum	A Beetle	Notable:A
Stenus (Hypostenus) oscillator	A Beetle	Notable:B
Stratiomys potamida	Banded General	Notable
Tachyporus formosus	A Beetle	Notable:A
Thamiocolus viduatus	A Beetle	Notable:B
Thecla betulae	Brown Hairstreak	WCA5, S41, GB RDB(VU)
Timandra comae	Blood-vein	S41
Tyria jacobaeae	Cinnabar	S41
Watsonalla binaria	Oak Hook-tip	S41
Zacladus exiguus	Bloody Cranesbill Weevil	Notable:B
Mammals		

Latin Name	Common Name	Designation
Arvicola amphibius	European Water Vole	WCA5, S41
Barbastella barbastellus	Western Barbastelle	EPS(Sch2), WCA5, S41
Chiroptera	Unidentified Bat	EPS(Sch2)
Eptesicus serotinus	Serotine	EPS(Sch2), WCA5
Erinaceus europaeus	West European Hedgehog	S41
Lutra lutra	European Otter	EPS(Sch2), WCA5, S41
Meles meles	Eurasian Badger	BA
Myotis daubentonii	Daubenton's Bat	EPS(Sch2), WCA5
Myotis mystacinus/brandtii	Whiskered/Brandt's Bat	EPS(Sch2), WCA5
Myotis nattereri	Natterer's Bat	EPS(Sch2), WCA5
Nyctalus noctula	Noctule Bat	EPS(Sch2), WCA5, S41
Pipistrellus	Pipistrelle Bat species	EPS(Sch2), WCA5
Pipistrellus nathusii	Nathusius's Pipistrelle	EPS(Sch2), WCA5
Pipistrellus pipistrellus	Common Pipistrelle	EPS(Sch2), WCA5
Pipistrellus pygmaeus	Soprano Pipistrelle	EPS(Sch2), WCA5, S41
Plecotus	Long-eared Bat species	EPS(Sch2), WCA5, S41
Plecotus auritus	Brown Long-eared Bat	EPS(Sch2), WCA5, S41
Plants, Mosses and Lichen		
Clinopodium acinos	Basil Thyme	S41, GB RDB(VU), ENG BSBI RDB(VU)
Ranunculus flammula	Lesser Spearwort	ENG BSBI RDB(VU)
Reptiles		
Anguis fragilis	Slow-worm	WCA5, S41
Natrix helvetica	Grass Snake	WCA5, S41
Zootoca vivipara	Common Lizard	WCA5, S41

APPENDIX D – ABBREVIATIONS

Table A3 displays abbreviations of protected species legislation.

Table A3: Glossary of abbreviations used in this report:

Code	Full Title	Explanation
Amber	Amber list	Amber listed species have a population status in the UK of medium conservation concern.
BA	The Protection of Badgers Act 1992	Legislation making it an offence to kill, injure or take a Badger, or to damage or interfere with a sett unless a licence is obtained from a statutory authority.
BAP	Biodiversity Action Plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
DA	The Deer Act 1991	All wild deer with the exception of Muntjac (*Muntiacus reevesi*) and Chinese Water deer (*Hydropotes inermis*) are protected by a closed season.
ENG BSBI RDB	A Vascular Plant Red List for England	A list published in 2014 by the Botanical Society of Britain and Ireland of the red list status of plants in England. Measured against standardised IUCN criteria.
ENG BSBI RDB(CR)	Critically Endangered	A BSBI Red List designation for species at an extremely high risk of extinction.
ENG BSBI RDB(EN)	Endangered	A BSBI Red List designation for species at a very high risk of extinction.
ENG BSBI RDB(VU)	Vulnerable	A BSBI Red List designation for species at high risk of extinction.
EPS (Sch 2)	European Protected Species (Schedule 2)	European protected species (listed on Schedules 2 of The Conservation of Habitats and Species Regulations 2017)
EPS (Sch 5)	European Protected Species (Schedule 5)	European protected species (listed on Schedules 5 of The Conservation of Habitats and Species Regulations 2017)
GB RDB	Red Data Book Species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically Endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.

Code	Full Title	Explanation
HAP	Habitat Action Plan	A plan that identifies threats to a priority habitat and sets out targets and actions to enhance or maintain that habitat.
IUCN	International Union for Conservation of Nature and Natural Resources (also known as The World Conservation Union)	A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.
LBAP	Local Biodiversity Action Plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
LHAP	Local Habitat Action Plan	A plan that identifies threats to a locally important priority habitat and sets out targets and actions to enhance or maintain that habitat.
LSAP	Local Species Action Plan	A plan that identifies threats to locally important species, and sets out targets and actions to prevent losing that species from the local area.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
Notable:A	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties.
Notable: B	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties.
NN	Nationally Notable	Designation for invertebrate taxa that are thought to be notably important in the UK.
NR	Nationally Rare	Species in 15 or fewer hectads in Great Britain.
NS	National Scarce	Species in 16-100 hectads in Great Britain.
OSPAR	OSPAR	Species listed on The Convention for the Protection of the Marine Environment of the North-East Atlantic

Code	Full Title	Explanation
Red	Red List	Red listed species have a population status in the UK with high conservation concern.
SAP	Species Action Plan	A plan that identifies threats to significantly important species, and sets out targets and actions to prevent losing that species to extinction.
S41	Species of Principal Importance	Species of Principal Importance in England under The Natural Environment and Rural Communities (NERC) Act (2006)
UKBAP	UK Biodiversity Action Plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity in the UK.
WCA	*The Wildlife and Countryside Act 1981* (as amended)	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the Local Authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (*e.g.* S13(2).
WCA1	Schedule 1 of *The Wildlife and Countryside Act 1981* (as amended)	This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law. Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity. Schedule I WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.

Code	Full Title	Explanation
WCA5	Schedule 5 of *The Wildlife and Countryside Act 1981* (as amended)	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale, possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (*e.g.* S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of *The Wildlife and Countryside Act 1981* (as amended)	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), *etc.*

APPENDIX E – RELEVANT LEGISLATION AND POLICY

Badger
Badgers are protected in Britain under the Protection of Badgers Act 1992 and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).

The legislation affords protection to badgers and badger setts, and makes it a criminal offence to:

- willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- intentionally or recklessly interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

Bats
Bats are European Protected Species listed in Scotland on The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended). This legislation makes it an offence to:

- deliberately capture, injure or kill;
- deliberately disturb, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destroy a breeding site or resting place; and
- possess, control, transport, sell, exchange, or offer for sale or exchange.

Common Reptiles
Zootoca vivipara (Common Lizard), *Anguis fragilis* (Slow-worm), and *Vipera berus* (Adder) are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), in respect of Section 9(5) and part of Section 9(1).

- Under the above legislation it is an offence to:
- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

Great Crested Newt
Great crested newts are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receives full protection under Section 9. Great crested newts are also European Protected Species listed on The Conservation of Species and Habitats Regulations 2010 (as amended). This legislation makes it an offence to:

- deliberately capture, injure or kill a great crested newt;
- deliberately disturb a great crested newt (in such a way as to be likely to significantly affect, (i) the ability of a significant group of great crested newt to survive, breed or rear/nurture their young; and (ii) the local distribution or abundance of the species concerned);
- deliberately take or destroys the eggs of such an animal;
- damage or destroy a breeding site or resting place of a great crested newt; and
- possess, control, transport, sell, exchange a great crested newt, or offer a Great Crested Newt for sale or exchange.

All resting and breeding places of great crested newts receive legal protection even when great crested newts are not present.

Nesting Birds

All species of bird are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended).

- The legislation makes it an offence to intentionally:
- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.