Habitat Report

ecologybydesign

Postcombe and Lewknor Solar, Land south of Postcombe

On behalf of Postcombe and Lewknor Solar Farm Limited

March 2025

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Contents

1 Executive Summary

Report purpose	This report identifies the findings of a UK Habitat Classification Survey at a proposed solar farm site at the land south of Postcombe, Thame, Oxfordshire, OX9 7EE (approximate central grid reference SU71105 98880).
Date and methods of survey	A baseline ecological survey of the site was conducted in May 2024 which included: • A desk study of ecological records; • A UK Habitat survey; • A baseline Habitat Condition Assessment; and • A Habitat suitability index assessment for great crested newts of offsite ponds.
Key findings	The site, situated south of Postcombe, is approximately 86ha in extent and includes large arable fields, neutral grassland along field margins, broadleaved woodland and hedgerows. There are no ponds within the site and two ponds within 250m of the site. Key findings include: • Two internationally designated sites: Aston Rowant SAC/SSSI/NNR and Chiltern Beechwoods SAC/SPA located 1.4km and 2.2km from the site; • Six nationally designated sites for nature conservation within 5km and two non-statutory sites within 2km of the site; • Priority habitats within the site including lowland deciduous woodlands and several native hedgerows; • The presence of protected and notable species including badger, nesting birds such as skylark, and plants including white helleborine; • Suitable habitat for dormice, foraging and commuting bats, hedgehog, brown hare and reptiles; • Non-native invasive plant species recorded on site include rhododendron and variegated yellow archangel; and • Negligible opportunities for other protected or priority species.
Recommendations and Conclusions	It is recommended that the identified priority habitats and species of principal importance are retained as part of the proposals; and that invasive plant species are removed. Habitat Condition Assessments according to the Statutory Biodiversity Metric have been completed which will inform the baseline biodiversity net gain calculations.

2 Introduction

2.1 Background

2.1.1 Ecology by Design was commissioned by ITP Energised (now SLR Consulting) to undertake a UK Habitat survey and baseline habitat condition assessment of land south of Postcombe, Thame, Oxfordshire, OX9 7EE (approximate central grid reference SU71105 98880). A desk study of ecological records and Habitat Suitability Index Assessment (HSI) of ponds with 250m was also undertaken.

2.2 Site Description

2.2.1 The 86ha site is situated to the south of the village of Postcombe and is bisected by the M40 motorway. It comprises large arable fields, other neutral grassland along field margins, other broadleaved woodland and hedgerows. The site lies within a largely arable landscape with some scattered small deciduous woodland parcels and areas of wood pasture. Aston Rowant SAC/SSSI/NNR is located 1.4km southeast of the site.

2.3 Proposed Works

2.3.1 The proposals for the site are for the construction of a solar farm.

2.4 Aims of Report

2.4.1 This report presents the survey methods and findings of the desk study, habitat survey and habitat condition assessment. This report is not suitable for submission to inform the planning application at the site as it is understood that ITP Energised will be responsible for the assessment of potential impacts and identifying any avoidance, mitigation, compensation and enhancement measures required and complete the Statutory Biodiversity Metric.

2.5 Personnel

2.5.1 This project is led by and the UK Hab survey conducted by, Principal Ecologist Karen Lunan BSc (Hons), MSc, MCIEEM who has over 18 years' experience in ecological consultancy with assistance from Senior Ecologist Olivia Gilbert BSc (Hons), MSc, MCIEEM, who has seven years' of experience in ecological consultancy. Both are experienced in conducting habitat and protected species assessments. The report was written by Karen Lunan.

2.5.2 Project supervision and review of the report was provided by Senior Ecologist Anna Spence, BSc (Hons), MSc, MCIEEM, who has been an ecological consultant for seven years.

3 Methods

3.1 Desk Study

3.1.1 A desk study was carried out to identify:

- Internationally protected sites within the potential zone of influence of the site (minimum of 7km);
- Nationally protected sites within 5km of the site; and
- Non-statutory designated sites and records of protected or priority species within 2km of the site boundary.

3.1.2 A 2km search radius for species and non-statutory designated sites is justified due to the scale and nature of the proposals. It is thought highly unlikely that species or non-statutory sites outside this search zone would be affected by the project. A larger search radius is applied for internationally and nationally designated sites as these sites are protected to a higher level and can often be more sensitive to disturbance. These search distances are also based on industry standard guidance.

3.1.3 Sources consulted include:

- Thames Valley Environmental Records Centre (TVERC) (returned 18th April 2024);
- MAGIC (magic.defra.gov.uk) (accessed 18th April 2024); and
- Local Planning Policy documents and the local planning portal.

3.1.4 A summary of the desk study findings is provided and the raw data shared with ITP Energised to enable other assessments of impacts on designated sites and species to be made as this is outside the scope of this report.

3.2 UK Habitat Survey and Baseline Habitat Condition Assessment

3.2.1 A UK Habitat survey was conducted on 13th May 2024 by Ecology by Design Principal Ecologist Karen Lunan BSc (Hons) MSc MCIEEM and Senior Ecologist Olivia Gilbert BSc (Hons) MSc MCIEEM using standard techniques and methodologies (CIEEM, 2017) and the nomenclature of Stace (2019).

3.2.2 The survey involved a walkover of the site within the red line boundary and mapping and assessing habitats utilising the standard UK Habitat Classification system (UKHab Ltd, 2023).

Weather conditions during the survey were warm (17°C), calm (wind 1 on Beaufort scale[1]) and sunny (cloud 1/8[2]). A UK Habitat Classification map is included in Appendix 2.

3.2.3 Habitat condition for habitat parcels within the site was assessed in accordance with the accompanying guidelines for the Statutory Biodiversity Metric (Annex 1 to DEFRA, 2024).

3.3 Great Crested Newt Scoping

Habitat Suitability Index Assessment of Ponds

3.3.1 A Habitat Suitability Index (HSI) survey was undertaken by Karen Lunan (Natural England class licence number 2016-10763-CLS-CLS Level 1) and Olivia Gilbert (Natural England class licence 2017-31698-CLS-CLS Level 1) during the Habitat Survey to assess suitability of two offsite ponds for great crested newts (*Triturus cristatus*). Natural England recommends calculation of HSI scores for ponds as a tool to assess habitat quality in a repeatable, objective manner (Natural England, 2020). In particular, the HSI allows individual factors that influence newt presence to be easily identified. Natural England suggests that ecological consultants apply the adapted HSI methods used by the National Amphibian and Reptile Recording Scheme (Herpetological Conservation Trust, 2008) in order to determine the HSI value of each waterbody. This adapted method simplifies the way in which terrestrial habitat is evaluated.

3.3.2 The suitability index is calculated by allocating scores to features associated with each waterbody; these include features such as size, quality of surrounding habitat and presence of fish. These scores are then used to calculate the overall HSI for each waterbody as a number between 0 and 1, with 0 being the least suitable and 1 being the most suitable. The HSI score allows each waterbody to be placed in one of five pre-defined categories defining its suitability for great crested newts as follows:

- <0.5 = poor
- 0.5 – 0.59 = below average
- 0.6 – 0.69 = average
- 0.7 – 0.79 = good
- >0.8 = excellent

3.4 Limitations/Constraints

3.4.1 The wildlife and wider ecological interest of a site can change. The report presented here is a statement of the findings of surveys carried out in May 2024. For the purpose of this report

[1] The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze etc.

[2] Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

the results of site visits are discussed in the present tense. Any appreciable delay in making reference to this report or changes to the proposed development boundary may necessitate a re-survey.

3.4.2 The species information gained from local record centres is largely derived from data submitted from members of the public and volunteers. For this reason, it should be understood that the desk study may not provide an exhaustive list of all protected species that could occur in the local area.

3.4.3 Weather conditions were suitable to conduct the survey.

3.4.4 Whilst incidental observations of protected and priority species were recorded during the survey, this report does not provide a comprehensive assessment of all species potentially associated with the site as this was not the focus of the survey.

3.4.5 This report does not include an assessment of potential impacts associated with the proposals nor does it include recommendations for avoidance, mitigation, compensation and enhancement measures required as it is understood that this will be the responsibility of ITP Energised.

4 Results and Interpretation

4.1 Designated Sites

4.1.1 The desk study identified two internationally designated sites for nature conservation within 7km of the site, six nationally designated sites for nature conservation within 5km and two non-statutory sites within 2km of the site.

Table 4.1: *Internationally classified / designated sites within 7km of the site*

Name & international reference	Distance & direction from site	Size and interest
The Chiltern Beechwoods (SPA[3], SAC[4]) – UK0012724	2.2 km SE	1,283.85 ha; Annex I habitat' *Asperulo-Fagetum* beech forests' is the primary reason for designation. The Annex I habitat 'Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites)' is present as a qualifying feature. There are no Annex II species present as a primary reason for designation, however, Annex II species stag beetle (*Lucanus cervus)* is present as a qualifying feature.
Aston Rowant (SAC[4], NNR, SSSI) – UK0030082	1.4km SE	127.82ha; Annex I habitat '*Juniperus communis'* is the primary reason for designation. The Annex I habitat '*Asperulo-Fagetum* beech forests' is present as a qualifying feature. There are no Annex II species present as a primary reason for designation.

Table 4.2: *Nationally designated sites and non-statutory sites of potential relevance within 2km of the site*

Name & reference	Distance & direction	Size and interest
Shirbum Hill (SSSI) – 1000327	2.4km S	63.7ha; This site comprises lowland calcareous grassland. Notable species include chalk eyebright (*Euphrasia pseudokerneri*), pale toadflax (*Linaria repens*), valerian (*Valeriana officinalis*), biting stonecrop (*Sedum acre*) and wild candytuft (*Iberis amara*).

[3] Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC), which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

[4] Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds).

Watlington and Pyrton Hills (SSSI) – 1000525	3.4km S	40.8ha; This site comprises a complex habitat mosaic, including calcareous grassland, mixed scrub, and woodland. The presence of silver-spotted skipper (*Epargyreus clarus*) is one of the main reasons for the sites SSSI designation. It also hosts a high variety of plant species, including squinancywort (*Asperula cynanchica*), crested hair-grass (*Koeleria macrantha*), and clustered bellflower (*Campanula glomerata*).
Knightsbridge Lane (SSSI) - 1000545	2.8km SW	1.72ha; This site comprises lowland broadleaf, mixed, and yew woodland. Green houndstongue (*Cynoglossum germanicum*) is present, and is maintained by local volunteers.
Chiltern Escarpment North (CTA)	1.4km SE	1443ha; This site comprises extensive SSSI chalk grasslands containing chalk heath and juniper scrub, as well as broadleaved, mixed deciduous and yew woodland and Watlington Park parkland.
Thame Valley (CTA)	1.3km SW	2165.5ha; Several priority habitats are found on this site, including flood plain grazing marsh, chalk streams, wet grassland, and lowland meadows. Fifteen priority species are supported by the flood plain grazing marsh, including breeding wader populations. Black poplar (*Populus nigra*) also occurs frequently along the Lower Thame.

Where;

SAC= Special Area of Conservation

SSSI = Site of Special Scientific Interest

SPA = Special Protection Area

NNR = National Nature Reserve

CTA = Conservation Target Area

4.2 Habitats

4.2.1 At the time of the survey (May 2024) the following habitats were recorded on site. They are described in Table 4.3 below, Photographs are included in Appendix 1 and a habitat map is included in Figure 1, Appendix 2. Habitat condition assessments are provided in Appendix 5 and summarised in the table below.

Table 4.3: *Habitat types identified during the UKHab survey*

Habitat type & UKHab code	Parcel or Feature Reference, Description and Condition Assessment
Cereal crops (Code c1c)	**PR1, PR3** and **PR7** are large cereal fields comprising barley with mostly narrow field margins (1-2m wide). Species present within the field margins include abundant black grass (*Alopecurus myosuroides*) and barren brome (*Anisantha sterilis*); occasional cocksfoot (*Dactylis glomerata*), ground ivy (*Glechoma hederacea*), cleavers (*Galium aparine*), cow parsley (*Anthriscus sylvestris*) and nettles (*Urtica dioica*). Condition Assessment: N/A
Non-cereal crops	**PR11** is an oilseed rape field with narrow field margins (<2m wide) with bare ground comprising abundant black grass and occasional creeping

(Code c1d)	thistle (*Cirsium arvense*), prickly sow thistle (*Sonchus asper*), nettle and cleavers. Condition Assessment: N/A
Other Neutral grassland (Code g3c)	Areas of other neutral grassland, although associated with the field margins of the cereal crop fields do not meet the definition of 'arable field margins' as they do not appear to be managed for the benefit of wildlife. **PR2** is a 6m wide field margin associated with field PR1 with 3-9 species per $2m^2$. Sward height is 20-30cm and is dominated by grasses including abundant barren brome, frequent red fescue (*Festuca rubra*); with occasional cocksfoot, cow parsley, ribwort plantain (*Plantago lanceolata*) and false-brome (*Brachypodium sylvaticum*). **PR4** is a 5m wide field margin associated with field PR3 with 6-7 species per $2m^2$. Sward height is 10-20cm and is dominated by cocksfoot with frequent red fescue, barren brome; occasional cleavers and false brome; and rarely occurring ragwort (*Senecio jacobaea*), field bindweed (*Convolvulus arvensis*), creeping buttercup (*Ranunculus repens)* and white campion (*Silene latifolia*). **PR8** is a 20mx5m area associated with the field margin of PR7 with 5-9 species per $2m^2$. Sward height is around 20cm with frequent barren brome, cocksfoot, false brome, red fescue and cow parsley; occasional field bindweed, bristly oxtongue (*Helminthotheca echioides*), ox-eye daisy (*Leucanthemum vulgare*), white dead-nettle (*Lamium album*) and rarely occurring nettle, bulbous buttercup (*Ranunculus bulbosus*) and catsear (*Hypochaeris radicata*). **PR12** is associated with field PR11. Part of the sward is managed through cutting with a height of approximately 10cm and southern section has a taller sward between 80cm-1m in height with 4-9 species per $2m^2$. Species present include frequent red fescue and false oat-grass (*Arrhenatherum elatius*) with occasional cow parsley, cleavers, hogweed (*Heracleum sphondylium*), nettle, common daisy (*Bellis perennis*), creeping thistle and rarely occurring forget-me-not (*Myosotis* sp.) and common vetch (V*icia sativa*). **PR13** is located within the field corner of PR11. Sward height is approximately 20 cm and comprises between 6-10 species per $2m^2$. Species present include abundant barren brome and occasional cut-leaved cranesbill (*Geranium dissectum*), common vetch, ribwort plantain, cow parsley, nettle and rarely occurring false oat-grass, dandelion (*Taraxacum officinale* agg.), agrimony (*Agrimonia eupatoria*), catsear, creeping buttercup, hogweed and teasel (*Dipsacus fullonum*). Condition Assessment: Medium distinctiveness, poor condition
Arrhenatherum neutral grassland (Code g3c5)	**PR5** is a 6m wide field margin associated with PR3 with 6-7 species per $2m^2$. The sward height is 30cm with abundant false oat-grass frequent creeping buttercup, broadleaf dock (*Rumex obtusifolius*); occasional cocksfoot, spear thistle (*Cirsium vulgare*) and nettle; and rarely occurring red fescue, false brome, dandelion, cow parsley, ribwort plantain and wood avens *(Geum urbanum),* In the southern part of the parcel, nettle becomes dominant. Condition Assessment: medium distinctiveness, poor condition

Lowland mixed deciduous woodland (Code w1f)	**PR6** comprises a parcel of broadleaved woodland with a canopy height of 18-20m with abundant ash (*Fraxinus excelsior*) and sycamore *(Acer pseudoplatanus)* and rarely occurring horse chestnut (*Aesculus hippocastanum*) and beech (*Fagus sylvatica*). The understorey comprises abundant hawthorn (*Crataegus monogyna*) and young sycamore with occasional elder *(Sambucas nigra*), hazel (*Corylus avellana*), privet (*Ligustrum sp*.), field maple (*Acer campestre*), blackthorn (*Prunus spinosa*) and wych elm (*Ulmus glabra*). Ground flora is dominated by common nettle, frequent cleavers and cocksfoot with occasionally present barren brome, white dead-nettle, dog's mercury (*Mercurialis perennis*), cow parsley and herb Robert (*Geranium robertianum*). Lords and ladies *(Arum maculatum)* is rarely present. Other species present in the ground flora include rarely occurring lords-and-ladies white dead-nettle, common ivy *(Hedera helix),* creeping buttercup, red campion *(Silene dioica),* broad-leaved dock, a forget-me-not, wood avens, sycamore saplings, garlic mustard *(Alliaria petiolata)* and creeping thistle. **PR10** comprises a strip of broadleaved woodland that forms part of a larger woodland and is separated by a minor access road. The parcel comprises abundant sycamore with frequent ash and occasional elm and elder. Field maple, horse chestnut and spindle (*Euonymus europaeus*) are rarely occurring. Ground flora includes abundant dog's mercury with frequent nettle and occasional herb Robert, cleavers and white dead-nettle. Both parcels are mapped as 'Priority Habitat Inventory – Deciduous Woodland' on MAGIC. Condition Assessment: moderate condition
Other broadleaved woodland (Code w1g 29)	**PR9** is a planted woodland shelterbelt of even-aged trees with a canopy height of approximately 14m. Tree species include frequent ash, cherry (*Prunus* sp.), sycamore, occasional Norway maple (*Acer platanoides*) and rarely occurring pedunculate oak, (*Quercus robur*) hawthorn and blackthorn. Ground flora comprises abundant barren brome, cow parsley and occasional cleavers, broadleaf dock, false brome and garlic mustard. Condition Assessment: poor condition **PR15** is a planted deciduous woodland shelterbelt with a canopy height of 14-16m with abundant ash and sycamore and occasionally present hawthorn, field maple, blackthorn, dogrose (*Rosa canina*), elm and elder in the understorey. The field layer has abundant barren brome and frequent cleavers, garlic mustard and occasional spear thistle. Condition Assessment: moderate condition **PR16** is a planted deciduous woodland shelterbelt with a canopy height of approximately 16m. Tree species include frequent ash, sycamore and beech; occasional field maple, cherry, elder and Norway maple. Some of the ash appear to be affected by dieback and there is some evidence of fly-tipping. Ground flora comprises barren brome, cleavers, nettle, false brome and garlic mustard with rarely occurring lords and ladies. Condition Assessment: moderate condition **PR17** is a planted deciduous woodland shelterbelt bordering the A40 carriageway with a canopy height of 14-16m with frequent ash, beech, horse chestnut and occasional hawthorn and blackthorn, bramble and

	dogrose. Ground flora is similar to PR16 with more frequent cleavers present. Condition Assessment: moderate condition
Other coniferous woodland (Code w2c 29)	**PR14** is a small stand of planted conifer trees including Norway spruce (*Picea abies*) with a grassland understorey (no woodland ground flora present),. Within the grassland, five white helleborine (*Cephalanthera damasonium*) plants were recorded. Condition Assessment: poor condition
Species-rich native hedgerow with trees (Code h2a5 11)	**H5** connects to woodland PR10 with a height of 6m. It has an associated bank and bridleway. H5 comprises >5 native woody species per 30m including field maple, hawthorn, blackthorn, dogwood (*Cornus sanguinea*), elder, wych elm, dogrose and spindle with ash and sycamore standards. Ground flora is comprised of frequent cow parsley, hogweed and cleavers with occasional herb Robert, white dead-nettle, garlic mustard, nettle and false brome. Condition Assessment: good condition
Other native hedgerow (Code h2a6)	**H3** is a managed hedge at a height of 3m which runs along part of the northern site boundary and has a dry ditch associated with it. It comprised abundant hawthorn, *Prunus* sp. and bramble (*Rubus fruticosus* agg.) with dogrose, sycamore and snowberry (*Symphoricarpos albus*) present rarely. Ground flora is characterised by abundant barren brome; frequent cow parsley, nettle; and occasional white dead-nettle and hogweed. **H4** runs along the northwestern edge of field PR7 adjacent to an offsite woodland. It has been flailed to 3m in height and is dominated by blackthorn and bramble with rare occurrences of dogrose, cherry, privet, wayfaring (*Viburnum lantana*), elder and rhododendron (*Rhododendron ponticum*). Climbing species include black bryony (*Dioscorea communis*) and white bryony (*Bryonia dioica*). Ground flora is similar to H3 with the addition of occasional occurrences of false brome and lords and ladies. Variegated yellow archangel (*Lamiastrum galeobdolon* subsp. *Argentatum*) was also recorded. **H6** is a 200m hedge between fields PR3 and PR11. It is closely managed to 2m height and dominated by blackthorn with occasional hawthorn and rare occurrences of dogrose, elder and dogwood. Ground flora is characterised by abundant common nettle, cow parsley and white dead-nettle. Condition Assessment: good condition
Non-native and ornamental hedgerow (Code h2b)	**H1** is a box dominated hedge adjacent to a residential property, managed to a 2m height with occasional cherry laurel (*Prunus laurocerasus*), Leyland cypress (*Cupressus x leylandii*) and silver birch (*Betula pendula*). Ground flora is dominated by barren brome. **H2** lies adjacent to a residential property and comprises a range of ornamental species such as cherry laurel, snowberry and red robin (*Photinia × fraseri*) with occasional native species of dogwood and elder. Ground flora comprises abundant cow parsley, nettle and barren brome.

	H7 is a box dominated hedge with occasional bramble and rare occurrences of hazel, wayfaring, guelder rose (*Viburnum opulus*), hawthorn and dogrose. Condition Assessment: poor condition (in accordance with Statutory metric guidance for non-native/ornamental hedgerow).

Adjacent habitats

4.2.2 There are four parcels of deciduous woodland adjacent to the site boundary (TN1 – TN4 on Figure 1), three of which are identified as priority habitat on MAGIC. Other priority habitats within 2km of the site include lowland calcareous grassland, ancient woodland, deciduous woodland, traditional orchards, and wood pasture and parkland.

4.2.3 There are two ponds (P1 and P2) located within 100m of the southern site boundary (Figure 2, Appendix 2). P1 is a large fishing lake and P2 is a small ornamental pond within a formal residential garden.

Conclusion

4.2.4 Of the habitats present on site, those identified as likely to qualify as priority habitats include:

- Lowland deciduous woodlands: PR6 and PR10
- Native hedgerows: H3 – H6

4.2.5 As such, and in line with Appendix 3, their level of geographic importance is considered to be local. This is due to the presence of comparable habitats within the wider landscape.

4.2.6 The other habitats on site are common and widespread habitats but nevertheless offer suitable habitat for a range of species such that they are of elevated ecological value, albeit do not qualify as priority habitats. As such, and due to the context of these habitats within the wider landscape, the remaining habitats are assessed to be of negligible geographic importance in line with Appendix 3.

4.3 Species

Great Crested Newts

Desk study

4.3.1 There are no records for this species within 2km of the site.

4.3.2 No European protect Species Licences (EPSL) were returned for GCN within 2km of the site.

4.3.3 Consultation with the NatureSpace impact risk zone maps identifies that the site falls within White/Green risk zone. This indicates that the site is of low-moderate suitability for great crested newts which equates to low probability of presence/great crested newts may be present.

HSI survey

4.3.4 There are no ponds present within the site. An assessment of the suitability of the two offsite ponds was undertaken, the component scores and HSI scores resulting from this assessment are shown in Table 4.4. These results indicate that the offsite ponds south of the site have poor and below average suitability for great crested newts. Newt larvae (smooth/palmate newt) were visible in P2, no evidence of great crested newt (eggs or larvae) was noted. Whilst there is suitable terrestrial habitat for this species within the site, due to the absence of breeding habitat within the site and low suitability of offsite ponds, great crested newts are considered likely to be absent from the site.

Table 4.4: *Habitat Suitability Index scores and suitability class*

Pond ID	P1 (offsite lake)	P2 (offsite garden)
1. Location	1	1
2. Pond area	n/a*	0.05
3. Pond drying	1	0.5
4. Water quality	0.67	0.67
5. Shade	1	1
6. Fowl	0.01	1
7. Fish	0.01	1
8. Ponds	0.72	0.72
9. Terrestrial habitat	0.67	0.67
10. Macrophytes	0.4	0.4
HSI Score	**0.317**	**0.563**
Suitability Class	**Poor**	**Below Average**

*Excluded from the calculation as size exceeds maximum

Other Protected, Priority or Invasive Species

4.3.5 The results of the desk study are presented together in Table 4.5 below. The species / species groups present or potentially present based on the onsite habitats are presented in order of relevance. Relevant legislation and policy is referred to as appropriate and further details are provided in Section 6.

4.3.6 There are no watercourses within the site or adjacent to the site therefore species associated with such habitats such as white-clawed crayfish (*Austropotamobius pallipes*), otter (*Lutra lutra*), water vole (*Arvicola amphibius*), fish and aquatic invertebrates will not be affected by the proposals. As such, they are not discussed further within this report.

Table 4.5: *Presence of or potential for protected / notable / invasive species within the site and local area*

Species	Protection or Status *	Presence/potential at the site
Bats	EPS. SPI. W&CA 1981 Sch5	Sixty records of at least five bat species have been recorded within 2km of the site including soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), Natterer's (*Myotis nattereri*), brown long-eared (*Plecotus auritus*), and noctule (*Nyctalus noctula*). The closest of these records is for a common pipistrelle bat 0.7km south of the site in 2021. Two European Protected Species Licence (EPSL) for bats have been returned within 2km, with the closest for the destruction of common pipistrelle and brown long-eared resting places in 2016, 1.9km northeast of the site. The majority of the site comprises large arable fields which offer limited opportunities for foraging bats. However, the hedgerows, wider field margins and woodland shelter belts on the site boundaries and which cross the site offer suitable habitat for foraging and commuting bats and the trees within them may provide roosting opportunities.
Birds	W&CA 1981 Sch1 / Sch5	A total of 744 records of fifty-six bird species were returned by the desk study, comprising a mix of species typical of urban, arable, wetland and woodland habitats. There are opportunities for foraging and nesting birds within the woodland, hedgerows and open fields. Skylark (*Alauda arvensis*) were heard calling from the fields during the survey.
Dormouse *(Muscardinus avellanarius)*	EPS. SPI. W&CA 1981 Sch5	Two records of the species were returned by the desk study. Both are located 0.45km SW of the site for a nest and individuals in 2022. The site includes small parcels of deciduous woodland and hedgerows which have potential to provide suitable habitat for dormice to nest and forage, albeit connectivity to the wider landscape is poor due to the presence of major roads such as the M40 and A40.
Badger (*Meles meles*)	Protection of Badgers Act 1992.	Five records of badger were returned by the desk study. The closest of these was for a dead badger in 2018 on the M40 which bisects the site. Large badger setts (multiple sett entrances) are present within the woodlands within and adjacent to the site. Badgers are likely to commute and forage across the site.
Reptiles	W&CA 1981 Sch5	Twenty-six reptile records comprising common lizard (*Zootoca vivipara*), and slow-worm (*Anguis fragilis*) were returned by the desk study. There are limited suitable habitats for reptile due to the arable nature of the site. However, the woodland parcels, hedgerow and field margins may be used as refuges and for dispersal and foraging.

Hedgehog (*Erinaceous europaeus*)	SPI	Three records of hedgehog were returned by the desk study. Suitable habitats for hedgehog include the woodland parcels and hedgerows which may provide refuges, foraging and commuting opportunities for this species.
Brown Hare (*Lepus europaeus*)	SPI	Six records of the species were returned by the desk study. The arable fields, hedgerows and woodland parcels provide suitable habitat for this species for commuting, foraging, and resting. During the dormouse and bird surveys undertaken at the site in 2024, two sightings of brown hare were noted in field PR3.
Common toad (*Bufo bufo*)	SPI	One records of the species were returned by the desk study. The arable nature of the site and lack of aquatic habitat provides limited opportunities for this species. Although the ponds to the south may provide opportunities for this species, it is considered unlikely that toads would commute through the site as they would likely remain outside of the site in more suitable habitat such as gardens.
Invertebrates	SPIs.	A total of 1083 records of seventy-eight protected invertebrate species were returned by the desk study. The majority of these records relate to the designated site, Aston Rowant SSSI/NNR located 1.4km SE of the site. The woodlands may provide opportunities for saproxylic species such as stag beetle and there are opportunities for common and widespread invertebrates associated with wide field margins, hedgerows and woodlands. However, the majority of the site comprises arable fields are unsuitable.
Protected plants	SPI	A total of 102 records of forty-nine protected plant species were returned by the desk study. The majority of these records relate to the designated site, Aston Rowant SSSI/NNR. White helleborine was recorded within the site which is a species of Principal Importance under Section 41 of the NERC Act 2006. No other evidence of protected or notable plants was recorded during the survey.
Invasive species	W&CA 1981 Sch9	Five records of four invasive plant species were returned by the desk study including rhododendron. Two records of one invasive faunal species were returned by the desk study. Rhododendron and variegated yellow archangel were recorded within H4 which are listed on Schedule 9 of the Wildlife & Countryside Act 1981.

* Where:

EPS = European Protected Species under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended)

SPI = Species of Principal Importance under Section 41 of the NERC Act 2006

W&CA 1981 = Wildlife and Countryside Act 1981 (as amended)

Sch1 = Schedule 1 Birds which are Protected by Special Penalties (W&CA 1981)

Sch5 = Schedule 5 Animals which are Protected (W&CA 1981)

Sch9 = Schedule 9 Animals and Plants to which Section 14 Applies (W&CA 1981)

Conclusion

4.3.7 The presence of protected and notable species has been established including badger, nesting birds, brown hare and plants such as white helleborine. Suitable habitat for dormice, foraging and commuting bats, hedgehog and reptiles has been identified. Due to the habitats present on site and their suitability for these and other protected species, further survey work would be required to assess the value of the site for species in accordance with the assessment criteria detailed at Appendix 4 although it is likely that these are at least of Local value. It is not within the scope of this report to recommend further surveys as it is understood that a number of these are underway.

5 Recommendations

Habitats

5.1.1 It is recommended that the identified priority habitats; Lowland deciduous woodland and Native hedgerows are retained and protected as part of the proposals.

5.1.2 Habitat enhancements to help achieve biodiversity gain at the site could include creation and management of native wildflower meadow habitat within the arable fields beneath the proposed solar array (i.e. to achieve a medium distinctiveness grassland).

Notable Plant Species

5.1.3 It is recommended that the white helleborine plants, which is a species of Principal Importance under the NERC Act 2006 are retained and protected as part of the proposals.

Invasive Plant Species

5.1.4 It is recommended that invasive non-native species including rhododendron and variegated yellow archangel are removed as it is an offence to cause these plants to grow in the wild.

Biodiversity Net Gain

5.1.5 The habitat condition assessment of the baseline habitats on site have been completed which will inform the baseline biodiversity net gain calculations (to be undertaken by ITP Energised).

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6 Relevant Legislation and Policy

6.1 Local Planning Policy

6.1.1 The South Oxfordshire Local Plan was adopted in 2011 and contains the following policies of relevance to this document:

Policy ENV2: Biodiversity – Designated Sites, Priority Habitats and Species

"1. The highest level of protection will be given to sites of international nature conservation importance (Special Areas of Conservation). Development that is likely to result in a significant effect, either alone or in combination, on such sites will need to satisfy the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended).

2. Sites of Special Scientific Interest (SSSI) are of national importance. Development that is likely to have an adverse effect on a SSSI (either on its own or in combination with other developments) will only be permitted in exceptional circumstances, where it can be demonstrated that the benefits of the development in the location proposed clearly outweigh any harm to the special interest features and the SSSI's contribution to the local ecological network. In such circumstances, measures should be provided (and secured through planning conditions or legal agreements) that would mitigate or, as a last resort, compensate for the adverse effects resulting from development.

3. Development likely to result, either directly or indirectly to the loss, deterioration or harm to:

- *Local Wildlife Sites*
- *Local Nature Reserves*
- *Priority Habitats and Species 168 Local Plan 2035 DECEMBER 2020 South Oxfordshire District Council*
- *Legally Protected Species*
- *Local Geological Sites*
- *Ecological Networks (Conservation Target Areas)*
- *Important or ancient hedges or hedgerows*
- *Ancient woodland and veteran trees*

will only be permitted if:

i) the need for, and benefits of the development in the proposed location outweigh the adverse effect on the interests;

ii) it can be demonstrated that it could not reasonably be located on an alternative site that would result in less or no harm to the interests; and

iii) measures will be provided (and secured through planning conditions or legal agreements), that would avoid, mitigate or as a last resort, compensate for the adverse effects resulting from development.

4. Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) will be refused planning permission, unless there are wholly exceptional reasons justifying the granting of planning permission. 5. Where development has the potential to affect a proposed wildlife site the developer must undertake surveys and assessments to determine whether the site meets the criteria for Local Wildlife Site status."

Policy ENV3: Biodiversity

"1. Development that will conserve, restore and enhance biodiversity in the district will be supported. All development should provide a net gain in biodiversity where possible. As a minimum, there should be no net loss of biodiversity. All proposals should be supported by evidence to demonstrate a biodiversity net gain using a recognised biodiversity accounting metric. South Oxfordshire District Council Local Plan 2035 DECEMBER 2020 169

2. Development proposals which would result in a net loss of biodiversity will only be considered if it can be demonstrated that alternatives which avoid impacts on biodiversity have been fully explored in accordance with the mitigation hierarchy. In the absence of alternative sites or layouts, development proposals must include adequate mitigation measures to achieve a net gain of biodiversity. Where harm cannot be prevented or adequately mitigated, appropriate compensation measures will be sought, as a last resort, through planning conditions or planning obligations (depending on the circumstances of each application) to offset the loss by contributing to appropriate biodiversity projects to achieve an overall net gain for biodiversity.

3. Planning permission will only be granted if impacts on biodiversity can be avoided, mitigated or, as a last resort, compensated fully."

6.2 Exit from European Union

6.2.1 The Conservation of Habitats and Species Regulations 2017 (as amended), referred to as the '2017 Regulations,' are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives). Changes to the 2017 Regulations have been made by the Conservation of Habitats and Species (Amendment)

(EU Exit) Regulations 2019 (referred to as the '2019 Regulations') to transfer functions from the European Commission to the appropriate authorities in England and Wales.

6.2.2 The amendments prescribed by the 2019 Regulations allow existing protections afforded by current wildlife legislation and transposed EC Council Directives to be operable from 01 January 2021.

6.2.3 The 2019 Regulations protect rare and vulnerable birds and the habitats that they depend upon. This is achieved in part through the classification of Special Protection Areas (SPAs). The Habitats Directive aims to protect plants, habitats and animals other than birds. This is achieved in part through the creation of Special Areas of Conservation (SACs). SPAs and SACs are collectively referred to as the 'National Site Network'.

6.2.4 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the National Site Network, however, all Ramsar sites remain protected in the same was as SACs and SPAs.

6.3 National Planning Policy Framework

6.3.1 The National Planning Policy Framework (NPPF) was updated in December 2024 (MHCLG, 2024) thereby replacing the older version of December 2023.

6.3.2 In relation to planning for climate change, para 162 states: Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating and drought from rising temperatures. Policies should support appropriate measures to ensure the future health and resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

6.3.3 The new framework sets out in section 15 that planning policies and decisions should contribute to and enhance the natural and local environment by … (d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs (Para 187).

6.3.4 To protect and enhance biodiversity and geodiversity (Para 192), plans should:

- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and

areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

6.3.5 When determining planning applications, local planning authorities should apply the following principles (Para 193):

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

6.3.6 The following should be given the same protection as habitats sites (Para 194):

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

6.3.7 The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site (Para 195).

6.4 Birds

6.4.1 All nesting wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

6.4.2 The Conservation of Habitats and Species Regulations 2017 (as amended) places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive') (Regulation 10 (3)) requires that the objective is the 'preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive…' Regulation 10 (7) states: 'In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements'.

6.4.3 In relation to the duties placed on competent authorities under the 2017 Regulations (as amended), Regulation 10 (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

6.5 Badgers

6.5.1 Badger is protected under the Protection of Badgers Act 1992. It is not permitted to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

6.5.2 ODPM Circular 06/2005 (ODPM, 2005) provides further guidance on statutory obligations towards badger within the planning system. Of particular note is paragraph 124, which states

that "The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions."

6.5.3 Natural England provides Standing Advice (Gov.uk, 2015), which is capable of being a material consideration in planning decisions. Natural England recommends mitigation to avoid impacts on badger setts, which includes maintaining or creating new foraging areas and maintaining or creating access (commuting routes) between setts and foraging/watering areas.

6.6 Wild Mammals

6.6.1 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

6.7 Invasive non-native species

6.7.1 An invasive non-native species is any non-native animal or plant that has the ability to spread causing damage to the environment.

6.7.2 Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to release, or to allow to escape into the wild, any animal which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state or is listed under Schedule 9 of the Act.

6.7.3 It is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

6.8 Hedgerows

6.8.1 Article 10 of the Habitats Directive requires that 'Member States shall endeavour…to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure…or their function as steppingstones…are essential for the migration, dispersal and genetic exchange of wild species'. Examples given in the Directive include traditional field boundary systems (such as hedgerows).

6.8.2 The aim of the Hedgerow Regulations 1997, according to guidance produced by the Department of the Environment, is "to protect important hedgerows in the countryside by controlling their removal through a system of notification. In summary, the guidance states that the system is concerned with the removal of hedgerows, either in whole or in part, and

covers any act which results in the destruction of a hedgerow. The procedure in the Regulations is triggered only when land managers or utility operators want to remove a hedgerow. The system is in favour of protecting and retaining 'important' hedgerows.

6.8.3 The Hedgerow Regulations set out criteria that must be used by the local planning authority in determining which hedgerows are 'important'. The criteria relate to the value of hedgerows from an archaeological, historical, wildlife and landscape perspective.

7 References

CIEEM (2017). *Guidelines for preliminary ecological appraisal, 2nd edition*. Chartered institute of Ecology and Environmental management, Winchester

DEFRA (2024). *Statutory biodiversity metric tools and guides*.

MHCLG (2024). *National Planning Policy Framework*. Ministry of Housing, Communities & Local Government, Worcester.

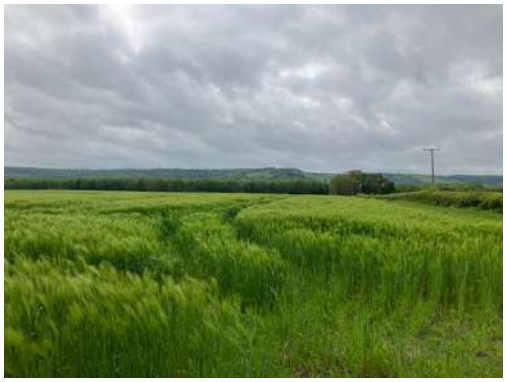
Herpetological Conservation Trust (2008). *Habitat Suitability Index – Guidance Notes*. National Amphibian and Reptile Recording Scheme. HCT.

Stace, C. (2019). *New British Flora of the British Isles, fourth edition.* Cambridge University Press.

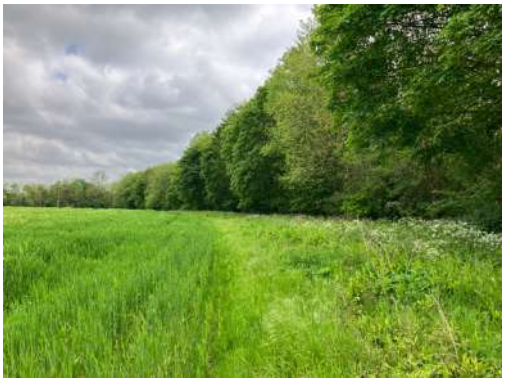
UKHab Ltd. (2023). *UK Habitat Classification Version 2.0* at https://ukhab.org

Appendix 1 - Photographs

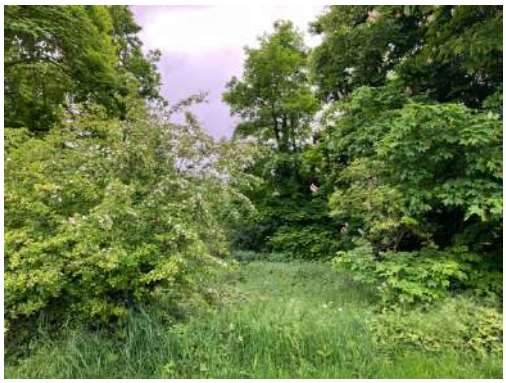
Photograph 1: Cereal crop field



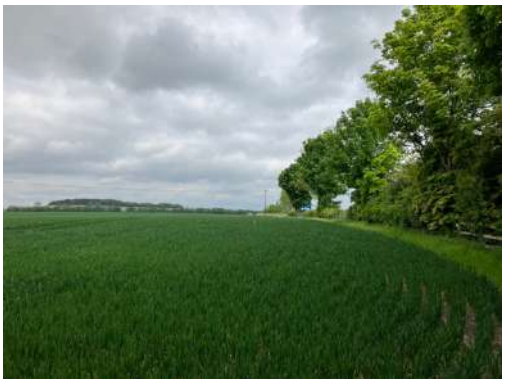
Photograph 2: Neutral grassland field margin



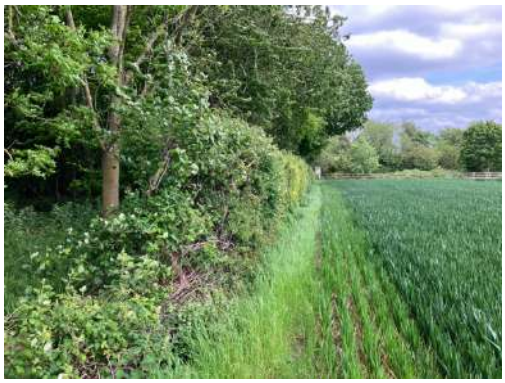
Photograph 3: Lowland deciduous woodland (PR6)



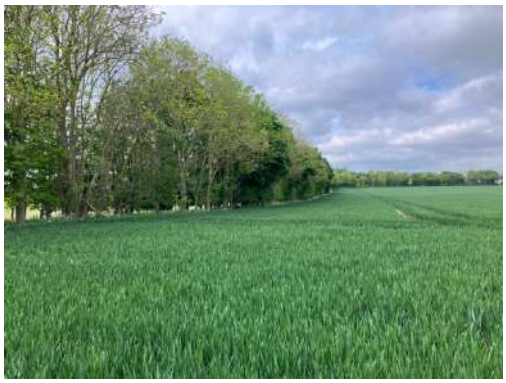
Photograph 4: Cereal field (PR7)



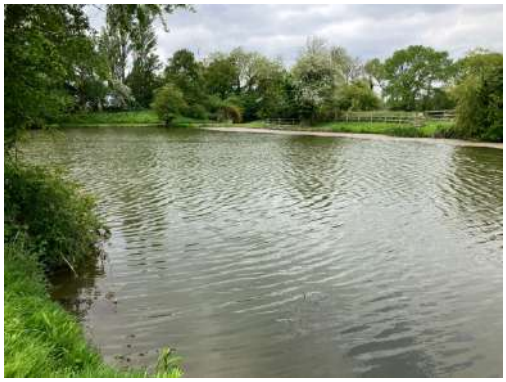
Photograph 5: Hedgerow H4



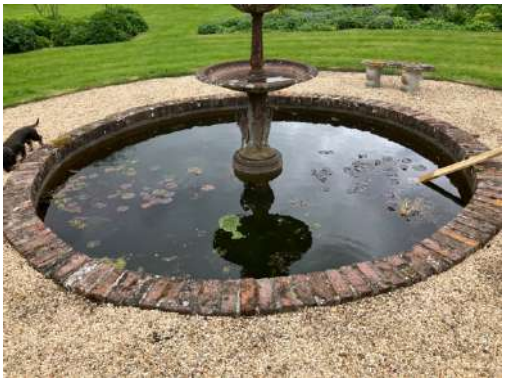
Photograph 6: Other broadleaved woodland (PR9)



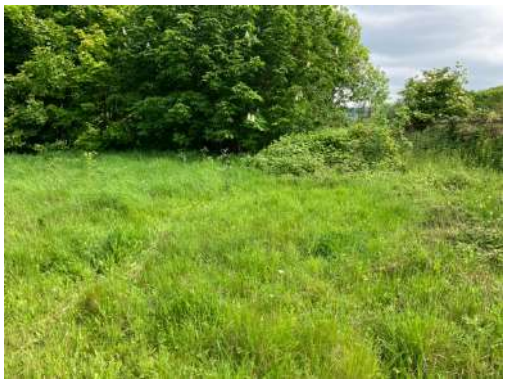
Photograph 7: Offsite fishing lake (P1)



Photograph 8: Offsite ornamental pond (P2)

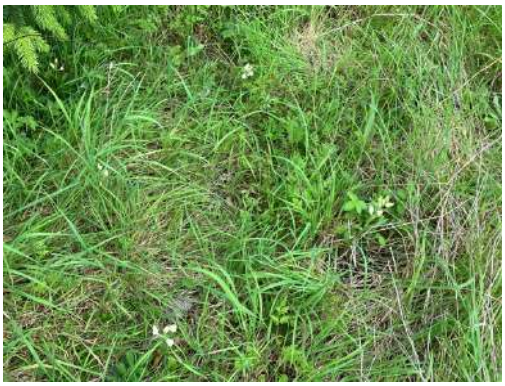


Photograph 9: Filed margin (PR12)

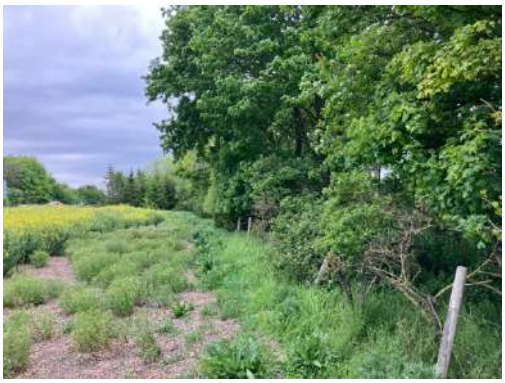


Photograph 10: Field margin and conifer stand (PR13-14)

Photograph 11: White helleborine



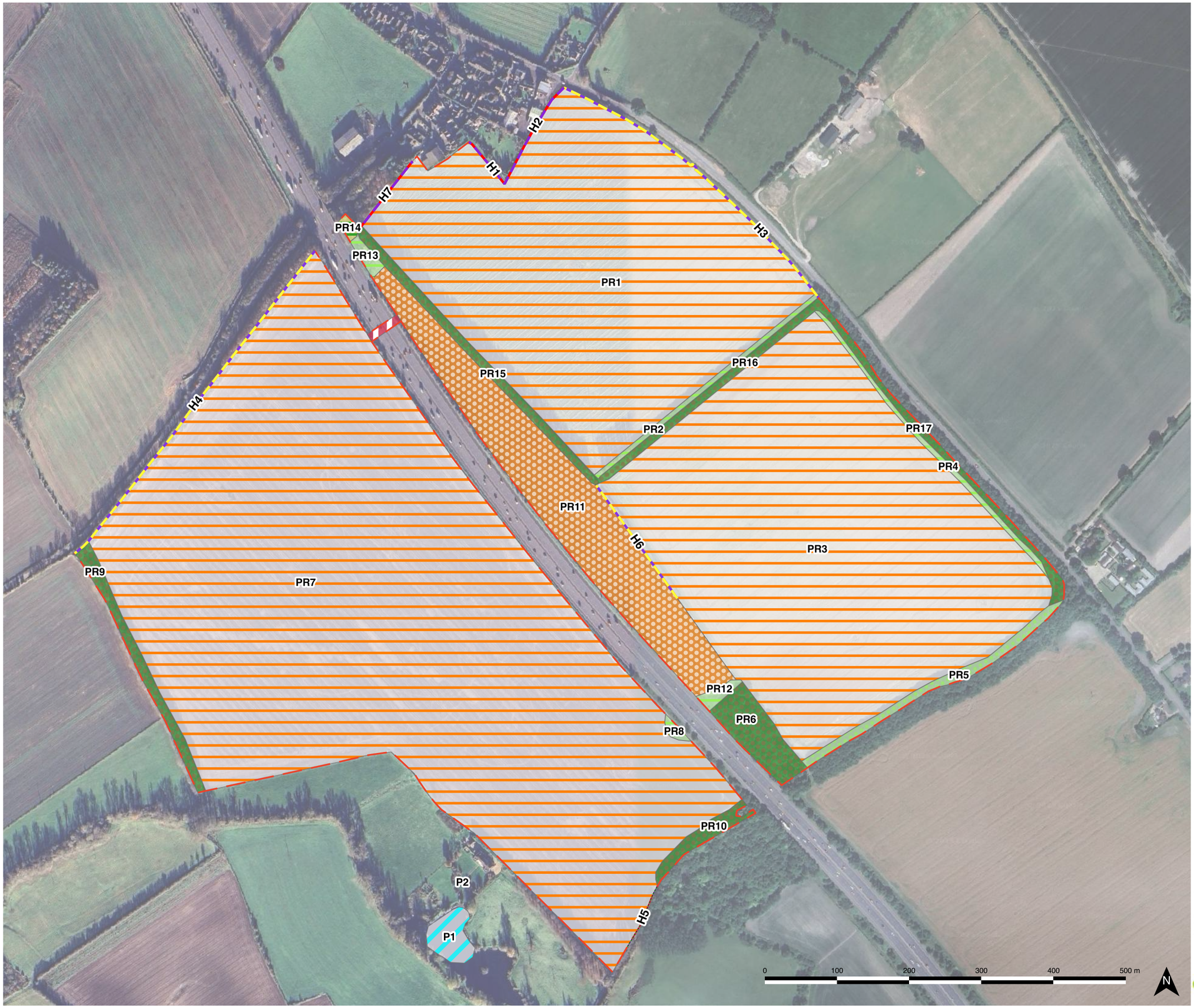
Photograph 12: Other broadleaved woodland (PR15)



Appendix 2 - Figures

Next page:

- Figure 1: Baseline Habitats
- Figure 2: Pond Map



LEGEND

Survey area (85.75 ha)

Habitats

- c1c - Cereal crops (76.3186 ha)
- c1d - Non-cereal crops (4.8229 ha)
- g3c - Other neutral grassland (0.8247 ha)
- g3c5 - Arrhenatherum neutral grassland (0.4923 ha)
- r1 - Standing open water and canals (0.3501 ha)
- r1(46) - Ornamental lake or pond (0.0011 ha)
- u1b - Developed land; sealed surface (0.057 ha)
- w1g - Other woodland - broadleaved (3.1704 ha)
- w2c - Other coniferous woodland (0.057 ha)

Hedgerows

- h2a5 (11) - Species-rich native hedgerow with trees (0.09 km)
- h2a6 - Other native hedgerow (1.2 km)
- h2b - Non-native and ornamental hedgerow (0.35 km)

Location (1:2,500,000):

Project:

Postcombe and Lewknor Solar Farm

Client:

Solar 2 Project E Limited

Drawing Title:

Baseline Habitats

Drawing No.: EBD_3850_DR001

Scale (@A3): 1:5,000

Central Eastings, Northings: 471141, 198906

Date Drawn: 21/03/2025

Drawn by: JE

Approved by: BG

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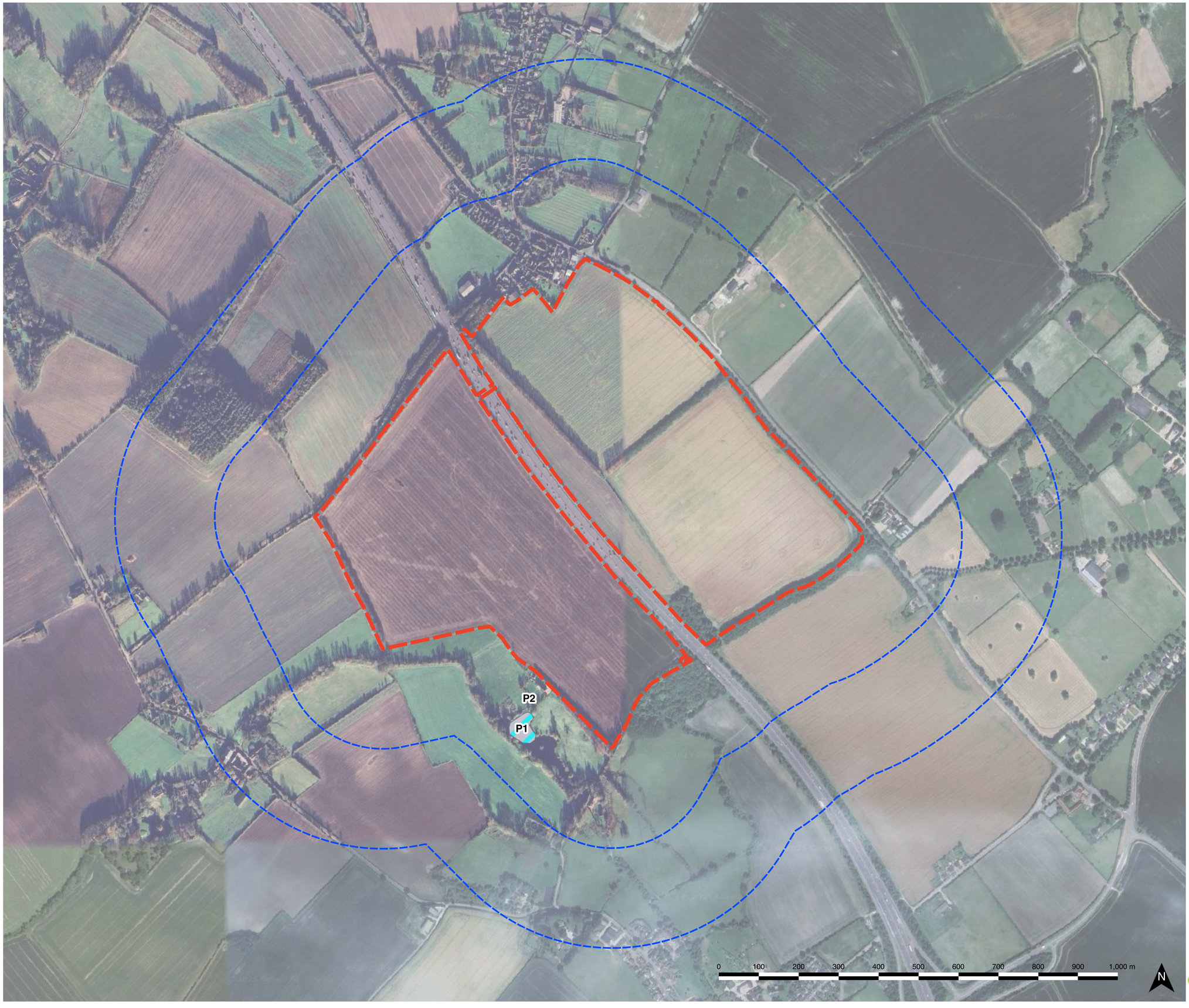

LEGEND

- Survey area (85.75 ha)
- 250 - 500m buffer
- Pond

Location (1:2,500,000):

Project:

Postcombe and Lewknor Solar Farm

Client:

Solar 2 Project E Limited

Drawing Title:

Pond Map

Drawing No.:
EBD_3850_DR002

Scale (@A3):
1:9,000

Central Eastings, Northings:
471119, 198874

Date Drawn:
21/03/2025

Drawn by:
JE

Approved by:
BG

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Appendix 3 - Definitions of the Geographic Context of Habitat Importance

Geographic Context of Importance	Examples
International value	Ramsar Sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation. Sites supporting populations of internationally important species.
National value	SSSIs or non-designated Sites meeting SSSI selection criteria, NNRs, Marine Nature Reserves, NCR Grade 1 Sites. Sites containing viable areas of key habitats identified in the UK Biodiversity Action Plan.
Regional value	Sites containing viable areas of threatened habitats listed in a Regional BAP (or some Natural Areas), comfortably exceeding SINC criteria, but not exceeding SSSI criteria.
County / Metropolitan	Sites meeting the criteria for county or metropolitan designation (SINC, CWS, etc.). Ancient semi-natural woodland, LNRs or viable areas of key habitat types listed in county BAPs/Natural Areas.
District / Borough	Undesignated Sites or features considered to appreciably enrich the habitat resource in the District or Borough.
Local i.e. Parish / Neighbourhood	Undesignated Sites or features which appreciably enrich the habitat resource within the Parish or Neighbourhood.
Negligible value	Low grade and widespread habitats.

Appendix 4 - Definitions of the geographic Context of Species Importance

Geographic Context of Importance	Examples
International	Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP. A regularly occurring, nationally significant population/number of any internationally important species.
National	Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (see local BAP). A regularly occurring, regionally or county significant population/number of any nationally important species.
Regional	Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation; A regularly occurring, locally significant number of a regionally important species.
County/ Metropolitan	Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan "red data book" or BAP on account of its regional rarity or localisation; A regularly occurring, locally significant number of a County/Metropolitan important species.
District / Borough	A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation; A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.
Local i.e. Parish / Neighbourhood	Species that are not threatened but are valued at a local level on intrinsic appeal.
Negligible	Common or widespread species.

Appendix 5 - Condition Assessment Tables

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

Neutral grassland field margins

ukhab – UK Habitat Classification												
On-site or off-site, site name and location	Lewknor baseline habitats	**Survey date and Surveyor name**	13/05/2024: K.Lunan & O. Gilbert									
		Survey reference (if relating to a wider survey)										
Limitations (if applicable)		**Habitat parcel reference**										
		PR2	PR4	PR5	PR8	PR12	PR13					
Condition Assessment Criteria		**Grid reference**										
		Criterion passed (Yes or No)										**Notes (such as justification)**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). [1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	N	N	N	N	N	N					
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	N	N	N	N	N					
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens [2].	Y	N	N	Y	Y	Y					
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Y	Y	Y	Y	Y					
E	Combined cover of species indicative of suboptimal condition [3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species [4] (as listed on Schedule 9 of WCA [5]) are present, this criterion is automatically failed.	N	Y	N	N	N	N					
Additional Criterion - must be assessed for all non-acid grassland types												
F	There are 10 or more vascular plant species per m [2] present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	N	N	N	N	N					
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	N	N	N	N	N					
Number of criteria passed		2	2	1	2	2	2					
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)	1	1	1	1	1	1					

Non-acid grassland types (Result out of 6 criteria)												
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)											
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)											
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)											

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare*, curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended)

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:
Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Lewknor baseline habitats	**Survey date and Surveyor name**	13/05/2024: K.Lunan & O. Gilbert	**Habitat parcel reference**										
				PR6	PR9	PR10	PR14	PR15	PR16	PR17				
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**		**Grid reference**										

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator										Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	2	2	2	1	2	2	2				
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	2	3	3	3	2	2				
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	3	3	3	3	3	3				
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	3	3	3	1	3	3	3				
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	2	2	1	1	2	3	3				
F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	2	2	3	3	3	3	3				
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	2	1	2	1	1	1	1				
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	2	3	3	3	3	2	2				
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	2	2	2	1	1	2	2				

J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	2	1	2	1	2	1	1				
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	1	1	1	1	1	1				
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	1	1	1	1	1	1	1				
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	1	2	1	1	1	2	2				
				Total Score (out of a possible 39)	26	25	27	21	26	26	26				

Condition Assessment Result	**Condition Assessment Score**	**Result Achieved**									
Total score >32 (33 to 39)	Good (3)										
Total score 26 to 32	Moderate (2)	2		2		2	2	2			
Total score <26 (13 to 25)	Poor (1)		1		1						

Suggested enhancement interventions to improve condition score

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

Hedgerows on field boundaries

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Lewknor baseline habitats	**Survey date and Surveyor name**	13/05/2024: K.Lunan & O. Gilbert
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)	**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Habitat parcel reference**										
			H1	H2	H3	H4	H5	H6	H7				
			Grid reference										

Core groups - applicable to all hedgerow types				**Criterion passed (Yes or No)**										**Notes (such as justification)**
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	Y	Y	Y	Y	Y	Y	Y				
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice)	Y	Y	Y	Y	Y	Y	Y				
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y	Y	Y	Y	Y	N	Y				
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y	N	Y	N	N	Y	Y				
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	N	N	Y	Y	Y	Y	Y				

C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Y	N	Y	Y	Y	N	Y				
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	N	N	Y	N	Y	Y	N				
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	N	N	Y	Y	Y	Y	Y				
Additional group - applicable to hedgerows with trees only															
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.					Y						
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.					Y						

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	

Condition categories for hedgerows with trees		
Category	**Category Requirements**	**Metric score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	

Suggested enhancement interventions to improve condition score