Stonestreet Green Solar

Supplementary Baseline Ecology Surveys

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Supplementary Baseline Ecological Surveys

1.1 Introduction

1.1.1 This document and the supporting Annexes have been prepared to support an application (the 'Application') for a Development Consent Order ('DCO') from the Secretary of State for Energy Security and Net Zero under Section 37 of the Planning Act 2008 ('PA 2008') for the proposed Stonestreet Green Solar Farm (the 'Project'). The Application has been submitted by EPL 001 Limited (the 'Applicant').

1.1.2 The purpose of this document and the supporting Annexes is to provide the Examining Authority with supplementary baseline ecological data. This information is presented in survey reports which have been prepared after the Environmental Statement ('ES') for the Project was submitted.

1.1.3 **ES Volume 4, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4)** [APP-089 and APP-090] provided the following baseline survey reports:

- Appendix 9.5a - Hedgerow Condition and Importance Assessment;
- Appendix 9.5b - Invertebrate Survey Report;
- Appendix 9.5c - Fungi Survey Report;
- Appendix 9.5d - Amphibian Survey Report;
- Appendix 9.5e - Reptile Survey Report;
- Appendix 9.5f - Wintering Bird Survey Report;
- Appendix 9.5g - Breeding Bird Survey Report
- Appendix 9.5h - Bat Activity (Transect and Static) Survey Report;
- Appendix 9.5i - Hazel Dormouse Survey Report;
- Appendix 9.5j - Hedgehog Survey Report;
- Appendix 9.5k - Riparian Mammal Survey Report;
- Appendix 9.5l - Bat Tree Survey Report;
- Appendix 9.5m - Badger Report (CONFIDENTIAL); and
- Appendix 9.5n - Schedule 1 Bird Species Report (CONFIDENTIAL).

1.1.4 Table 9.5 of **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2**) [APP-033].provides a summary of the ecological surveys and other data sources which informed the assessment of Biodiversity effects.

1.2 Supplementary Baseline Ecological Surveys

1.2.1 A description of the supplementary baseline ecological data and survey reports provided as Annexes 1 – 4 is provided below together with an explanation of the

previously submitted information which formed part of the ES. A brief summary of the findings is also provided with reference to the previously submitted information.

Breeding and Wintering Birds

Previously Submitted Information:

- Wintering Bird Survey Report (Appendix 9.5f of **ES Volume 4, Appendix 9.5: Baseline Survey Report Appendices 9.5a-9.5f (Doc Ref. 5.4)** [APP-089]) – this was undertaken within the periods November 2020 to February 2021 and November 2021 to March 2022.
- Breeding Bird Survey Report (Appendix 9.5g of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g – 9.5n (Doc Ref. 5.4)** [APP-090]) – this was undertaken on various dates between May 2020 and June 2022.

Supplementary Information Provided:

- Wintering Bird Survey Report – supplementary surveys were undertaken at the Site within the periods between December 2023 to March 2024 and are reported in **Annex 1: Wintering Bird Survey Report (2023/2024 Winter Season)**.
- Breeding Bird Survey Report – surveys undertaken in April to June 2023 which are reported in **Annex 2: Breeding Bird Survey Report (2023 Season)**.

Findings:

- The findings of the 2023 – 2024 wintering bird surveys (Annex 1) are broadly similar to those of the previously submitted 2020 to 2022 wintering bird surveys. Some minor variations in the recorded species assemblage and numbers and distribution are noted but these variations do not alter the results of the previous assessment or proposed mitigation measures.
- The findings of the 2023 breeding bird surveys (Annex 2) are broadly similar to those of the previously submitted 2020 to 2022 breeding bird surveys. Some minor variations in the recorded species assemblage and numbers and distribution were noted (e.g. some reduction in distribution and territory numbers of skylark) but they do not alter the findings of the biodiversity impact assessment or proposed mitigation measures.

Bats

Previously Submitted Information:

- Bat Activity (Transect and Static) Survey Report (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4)** [APP-090] - produced following completion of surveys in May to October 2020 (inclusive) and May to October 2022 (inclusive).

Supplementary Information Provided:

- Bat Activity Survey – updated bat activity surveys were undertaken from May to September 2023 (inclusive) and are reported in **Annex 3: Bat Activity Report (2023 Season)**. The surveys involved five walked transect routes sampling bat activity across the entire Site during spring, summer

and autumn. 15 transect survey visits were carried out in total. A static detector survey of the Site was also undertaken from May to September 2023 (inclusive), five sampling locations were utilised with a recording survey effort of over 400 static detector hours in total.

Findings:

- The range of species recorded during the 2023 surveys is similar to that recorded during 2020 to 2022. The combined survey results confirmed a species assemblage using the Site of common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, brown long-eared bat, Myotis species (including confirmed Daubenton's bat and Natterer' bat), noctule, serotine and Leisler's bat.
- The updated surveys do not alter the findings of the biodiversity impact assessment or proposed mitigation measures.

Brown Hare Report

Previously Submitted Information:

- No specific survey work was undertaken for brown hare (*Lepus europaeus*) and as such a survey report was not included in the ES. However incidental recording of brown hare has been carried out during other species surveys undertaken in 2020 – 2022 and 2024 as reported in paragraph 9.5.124 of **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2**) [APP-033].

Supplementary Information Provided:

- Brown Hare Survey – a specific-specific Brown Hare Survey was undertaken in March 2024 and is reported in **Annex 4: Brown Hare Population Survey Report**.

Findings:

- No evidence of brown hare was recorded during the brown hare survey visits in 2024, however, incidental sightings of brown hare were recorded on Site in 2020, 2021, 2022 and 2024 during other protected and priority species survey work undertaken at the Site.
- The Site supports a population of brown hare, described as 'low' based on individual brown hare sightings across the Site Based on the prevalence of comparable suitable habitats within the wider local area, the Site is assessed as being of local (district) importance for brown hare in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2**) [APP-033].
- The brown hare survey does not alter the results of the findings of the biodiversity impact assessment or proposed mitigation measures.

1.2.2 The project ecologist (Lloydbore) has confirmed that the ecological information provided by the supplementary survey reports (Annex 1 - 4) do not alter the ecological feature value and impact assessment judgements reported in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2**) [APP-033]. remain valid. The mitigation measures proposed to be secured through the Application also remain valid.

Stonestreet Green Solar

Annex 1 - Wintering Bird Survey Report (2023/2024 Winter Season)

WINTERING BIRD SURVEY REPORT (2023 2024)

EPL 001 LIMITED

STONESTREET GREEN SOLAR

LAND NORTH AND WEST OF ALDINGTON, KENT

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EXECUTIVE SUMMARY

S.1 This Winter Bird Survey Report details the method and results of the winter bird survey focused on the local wintering bird assemblage in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project'). Winter bird surveys were undertaken within the periods December 2023 to March 2024, as an update to surveys previously undertaken between 2020 and 2022.

S.2 The objective of the wintering bird survey (supplemented by desk study) was to record the species, distributions, and numbers of wintering birds within and adjacent to site, with a focus on and notable species, to assess the conservation status of individual species and the wintering assemblage as a whole.

S.3 Four survey visits were conducted across the Site by experienced bird surveyors, and the survey method was broadly based on the 'look-see' transect survey methodologies detailed in Gilbert *et al.*, (1998).

S.4 The main findings of this winter bird survey were:

- 53 species were recorded within the Site during the survey visits. All species were recorded using the Site. Of these, 38 are notable species, as follows:
- Nine are listed as a Species of Principal Importance: herring gull, skylark, starling, song thrush, house sparrow, dunnock, bullfinch, yellowhammer and reed bunting.
- Ten are Birds of Conservation Concern (BoCC) red status species: snipe, herring gull, skylark, starling, fieldfare, redwing, mistle thrush, house sparrow, linnet and yellowhammer.
- 16 are BoCC amber status species: greylag goose, pink footed goose, mallard, stock dove, woodpigeon, rook, black-headed gull, common gull, kestrel, wren, song thrush, dunnock, grey wagtail, meadow pipit, bullfinch and reed bunting.
- Three species using the Site, kingfisher, fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA), however this is relevant to breeding only.

S.5 Based on the results of the 2023/2024 wintering bird surveys the Site is assessed as being of County level importance for wintering yellowhammer and of Local (district) level importance for wintering skylark.

S.6 The Site is of Local (district) importance for its remaining wintering bird assemblage.

S.7 The above findings are broadly similar to the findings of the 2020 and 2022 wintering bird survey work previously undertaken across the Site to inform the Development Consent Order (DCO) application. Some minor variations in the recorded species assemblage and numbers and distribution are noted but these variations do not alter the results of the previous assessment.

S.8 Impacts on wintering birds and their foraging habitats will be avoided and minimised by design, to ensure that the ecological importance of the local bird population can be maintained and improved.

S.9 Details of impact assessment, avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report. Instead, these measures are summarised and assessed within the **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033]., which remain appropriate following evaluation of the 2023 – 2024 winter survey results. These measures are set out within the associated **Outline Landscape and Ecological Management Plan (LEMP) (Doc Ref. 7.10(B))**.

S.10 Details of long-term habitat management prescriptions that will benefit the local bird population are also provided in the associated **Outline Landscape and Ecological Management Plan (LEMP) (Doc Ref. 7.10(B))**.

S.11 This report contains further details of the survey methodology, results and evaluation, as such it should be read in full.

1. INTRODUCTION

1.1 This Winter Bird Survey Report has been prepared on behalf of EPL 001 Limited ('the Applicant') to detail the method and results of the winter bird survey focused on the local wintering bird assemblage in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project').

1.2 This Winter Bird Survey Report provides additional and update survey data for the 2023/2024 winter season, to supplement the 2020-22 winter surveys previously completed and reported in Appendix 9.5f of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5a-9.5f (Doc Ref. 5.4)** [APP-089]

THE PROJECT

1.3 The Project comprises the construction, operation, maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

1.4 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW'). The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 ('HS1') railway.

1.5 The location of the Project is shown in Figure 1.1: Site Location Plan of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3)** [APP-043]**.** The Project will be located within the 'Order limits' (the land shown on the **Works Plans (Doc Ref. 2.3(B)** [REP1-003] within which the Project can be carried out). The Order limits plan is provided as Figure 1.2: Order Limits of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3) [**APP-043**]**. Land within the Order limits is referred to as the 'Site'.

SITE DESCRIPTION

1.6 The Site area is approximately 192 ha, located to the north and west of the village of Aldington to the south-east of Ashford in Kent. The Project lies within the administrative areas of Kent County Council ('KCC') and Ashford Borough Council ('ABC') local authorities. Further information on the Project, including proposed infrastructure and design, is provided in ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2).

1.7 The Site comprises agricultural fields delineated by hedgerows and tree belts. It extends to approximately 192 hectares and is currently predominantly used for arable cropping and grazing.

1.8 The Site also supports hedgerow, parcels of woodland, drainage ditches, ponds and arable field margins. The East Stour River flows in an east to west direction within, and adjacent to, the northern part of the Site.

1.9 Note that field references within this report are as shown in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)** [REP1-018].Fields are described in relation to the Proposed Layout as follows:

- The South Western Area Field 1 to 9.
- The Central Area Fields 10 to 19 and 23 to 25.
- The South Eastern Area Fields 20 to 22.
- The Northern Area Fields 26 to 29.
- Project Substation (location of the Project Substation, in the north western section of Field 26).
- 'Cable Route Corridor' (export of electricity from the Project at 132 kilovolt ('kV') via underground cables (the 'Grid Connection Cable') to the Sellindge Substation).
- 'Cable Route Crossing' (use of an existing cable duct under the High Speed 1 / Channel Tunnel Rail Link ('HS1') railway or through Horizontal Directional Drilling ('HDD') beneath HS1 for the Cable Route connection).
- Sellindge Substation (location of the existing Sellindge Substation).

SCOPE OF WORKS

1.10 This report details the results of winter bird surveys of the Site undertaken within the periods December 2023 to March 2024. Details of avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report; these measures are set out in the **Outline Landscape and Ecological Management Plan ('Outline LEMP') (Doc Ref. 7.10)** [REP1-048]**.** These measures are summarised and assessed within **ES Volume 2, Chapter 9 Biodiversity (Doc Ref. 5.2)** [APP-033]**.**

1.11 Details of long-term habitat management prescriptions that will benefit the local bird population are not included in this report; these measures are also set out in the **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B)).**

ASSESSMENT OBJECTIVES

1.12 The objectives of the survey and report are to: -

- Record the species, distributions and numbers of wintering birds within and adjacent to Project, with emphasis on any protected and notable species (as defined in Section 4);
- Assess the use of the Site by wintering birds;
- Report the results of the winter bird survey; and
- Assess the ecological importance of the Site for wintering birds.

2. METHOD

DESK STUDY

2.1 A data search of all bird records within 1km of the Site was undertaken by the Kent and Medway Biological Records centre (KMBRC) on the 7th April 2022, with an updated data search undertaken in August 2023.

2.2 A review of the returned records from KMBRC focused on declining farmland bird species and other relevant red listed species.

2.3 The returned data search from KMBRC includes records of 'Recent Winter (Aug-Mar)' and 'Date of Nearest'. For the purposes of the report the 'Recent Summer (Aug-Mar)' records that have occurred within the last 10 years will be reviewed as these will also capture the 'Date of Nearest' when they are the same.

2.4 Published Kent bird reports covering a five-year period of 2019 to 2023 (KOS 2020-2024) were reviewed.

2.5 A desk top MAGIC.gov.uk search was also conducted for any statutory areas designated for birds within 10km of the site. This was used to review designated site citations for any bird species of particular relevance to the site (i.e. where functional linkage to designated sites could occur). A review of statutory and non-statutory designated sites within 1km of the Site was also undertaken.

2.6 A review of the Local Wildlife Site (LWS) criteria (KWT, 2022) was also undertaken to inform evaluation and assessment.

SURVEY

FIELD SURVEY METHODOLOGY

2.7 The field survey methodology used was broadly based on the survey methodologies detailed in Gilbert *et al.*, (1998).

2.8 During each survey visit, a suitably experienced ornithologist walked a pre-determined transect route through the survey area. All bird species seen or heard during the survey were recorded and signs of activity and behaviour were noted. The species present and their behaviours were recorded on field maps using standard BTO species codes and behaviour notation.

2.9 However, survey effort was primarily focussed on in-scope species and other declining species that have either been listed as notable species in accordance with the assessment criteria in Section 3.24

2.10 Visual counts of all bird species encountered were made, with birds that could not be located visually identified through calls or songs.

2.11 The Site was surveyed on foot so that the surveyor passed within 50m of most points within the area. In some circumstances i.e., when fields are particularly large, the distance between the surveyor and areas within the Site may have exceeded 50m.

2.12 Consequently, birds flying overhead (and not using the Site) and/or some common and widespread species may have been not specifically recorded on survey visits. Records of Feral Pigeon (*Columba livia*) were not made.

2.13 Within this report, the term 'peak count' represents the total number of birds recorded for that species across the Site for the entire survey or during a single survey visit.

2.14 The 'max. flock count' represents the largest flock count or counts recorded across the Site for a single visit. The total of the flock counts recorded during the survey visit would provide the peak count for that visit and potentially the survey.

2.15 For the purposes of the winter bird survey, the winter bird report and the bird summaries, the Site has been split in to the following survey areas comprising of field numbers as in ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)..

Table 1: Winter bird survey areas and Fields (Refer to Fig 1 for the field locations).

Survey area	Fields
A	1, 2, 3, 4, 5, 6, 7, 8, 9 Majority of the South Western Area
B	10, 11, 12, 13, 14, 15, 16, 17 Southern half of The Central Area
C	24, 25, 26, 27, 28, 29 The Northern Land Area and northern half of The Central Area
D	20, 21, 22 The South Eastern Area
E	18, 19, 23 Northen half of The Central Land Area
F	26, 27, 28, 29 The Northern Land Area

SURVEY DATES, PERSONNEL AND WEATHER CONDITIONS

2.16 Winter bird survey visits were conducted on four survey dates between 15th December 2023 to 1st March 2024. The survey was undertaken by suitability experienced and qualified surveyors. Surveyors had been six and over 15 years of ornithological survey experience relating to development projects.

2.17 Survey visits were undertaken in suitable weather conditions (see Table 2 below), avoiding heavy rain, fog or heavy snow when bird behaviour may be atypical or surveying may be impractical.

Table 2: 2023/2024 survey details the associated weather conditions for when each survey visit was conducted.

Date	Weather
15/12/2023	Sunrise: 07:53 Start: 08:30, dry, 50% cloud, good visibility, 3 degrees, low wind (5mph NW) End: 10:45, dry, 90% cloud, good visibility, 6 degrees, low wind (5mph NW)
25/01/2024	Sunrise: 07:45 Start: 10:10, dry, 100% cloud cover, poor visibility – fog) 11 degrees, low-moderate wind (13-28mph SW). End: 12:30, dry, 100% cloud cover, good visibility – fog) 11 degrees, moderate wind (16-29mph SW).
12/02/2024	Sunrise: 07:26 Start: 08:50, dry, 20% cloud, good visibility, 4 degrees, low wind (12-16mph W) End: 11:20 dry, 20% cloud, good visibility, 6 degrees, low wind (12-16mph W)
01/03/2024	Sunrise: 06:50 (heavy rain) Start: 11:15, light showers, 100% cloud, good visibility, 6 degrees, wind moderate-high (21-36mph SW) End: 13:55, light showers, 80% cloud, good visibility, 8 degrees, wind moderate-high (21-36mph SW)

ASSESSMENT AND EVALUATION

ASSESSMENT CRITERIA

2.18 An assessment of the ornithological importance of the Site is made by evaluating (in terms of abundance, distribution, frequency or assemblage diversity) species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest within legislation, policy and guidance (as detailed within Annex 1). The assessment and evaluation of importance of the Site is primarily focused on the bird species listed below.

- species listed on Annex 1 of the EU Birds Directive or a qualifying feature of potentially functionally linked internationally designated sites;
- species listed on Schedule 1 of the WCA, 1981 (as amended);
- priority bird species in the UK;
- species listed as priority species or additional species of interest within Kent;
- species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists (Stanbury et al. 2021).

2.19 Additionally, assemblages have been assessed against the criteria for Local Wildlife Site designation within the Kent Local Wildlife Site Selection Criteria (Kent Wildlife Trust, 2022) and assemblage indicator species such as birds listed on the UK Farm Bird Indicator (Defra, 2023).

2.20 A comparison between population sizes present within the Site with the national and county wintering population estimates for certain species was also taken into account. National estimates for wintering birds are published in a paper: *'Population estimates of birds in Great Britain and the United Kingdom'* (Woodward et al., 2020). The BTO Bird Atlas 2007-2011 (Balmer et. al., 2013) was also reviewed for species information on a national level and to inform the above assessment criteria.

2.21 Information on the population status of wintering bird species at a county level was sourced from the latest available issues of the Kent Bird Reports (Kent Ornithological Society, 2019-2024)

2.22 Information on populations of nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) (Eaton M. and the Rare Breeding Birds Panel, 2022).

IMPORTANCE OF BIRD POPULATIONS (VALUATION)

2.23 To inform assessment of the importance of the bird populations associated with the Site, their biodiversity values have been defined with reference to the geographical level based on the values presented in the Chartered Institute of Ecology and Environmental Management (CIEEM) '*Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland'* (CIEEM, 2018) ('EcIA Guidelines') as well as professional judgement.

2.24 These assessment criteria (set out in the table 3 below) have been used in conjunction an assessment of species status, abundance and diversity to assess the biodiversity importance of the bird populations recorded during the surveys.

Table 3: Biodiversity Valuation of Ornithological Features

Biodiversity Valuation	Description and examples of criteria
International or European	Resident or regularly occurring populations of species which may be considered of value at an international or European level1 where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part2 of a wider population at this scale; or • the species is at a critical phase3 of its life cycle at this scale.
UK or National	Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework i.e. UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity. Resident or regularly occurring populations of species which may be considered of value at a UK or a national level4 where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.
Regional	Populations of species of value at a regional level (i.e. South-east England). Resident or regularly occurring populations of species which may be considered of value at a regional level5 where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.

Biodiversity Valuation	Description and examples of criteria
County	Populations of species of value at a County (i.e. Kent) level or District (e.g. Ashford). Resident or regularly occurring populations of species which may be considered of value at a County (or District)6 level where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or, • the species is at a critical phase of its life cycle at this scale
Local	Species populations of value in a local (i.e. within ~ 2 km of the site) context. Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Negligible (Site)	Habitats and associated species that is of value in the context of the site only. Populations of common and widespread species

Biodiversity Valuation	Description and examples of criteria
1 Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (i.e. EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended) or animal or plant species listed within Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (i.e. Habitats Directive). 2Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, e.g. critical emigration and, or immigration links between otherwise discrete populations. 3Seasonal activity or behaviour upon which survival or reproduction depends. 4Species which may be considered at the UK or national level mean: birds, other animals and plants which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (i.e. UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book. 5Such species include those listed in the appropriate Natural Character Area description. 6Such species include those at county level (i.e. Kent) including unitary authority area i.e. District level (i.e. South-east England); as listed on the LBAPs; and listed as a county designated site. *As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.	

2.25 Only ecological features within the Site and/or ZoI valued at a local level or above have been taken forward for future assessment within the Ecological Impact Assessment (EcIA). Those valued at below this level of importance, for example at the ZoI level, have been scoped out of the assessment process.

2.26 A summary of the potential impacts of the Project upon important bird species, have been assessed based on the location of birds within the Site and/or foraging areas combined with those areas most likely to be impacted by the Project works. These impacts are discussed further within **ES Volume 2: Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033].

ZONE OF INFLUENCE

2.27 The ZoI of a Project is defined by the EcIA Guidelines as "…the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities" (CIEEM, 2018).

2.28 The ZoI is determined by the source/type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the Site boundary.

2.29 The potential impact(s) of a project are not always limited to the boundaries of the site concerned. A project may also have the potential to result in impacts upon ecologically important sites, habitats or species that are located beyond the site boundaries.

2.30 A review of the Project proposals confirmed that they will likely result in loss of suitable on-Site bird wintering and foraging habitat, including loss of some small sections of field margins, hedgerows and other boundary habitats and extensive loss of habitat for ground foraging bird species that require open farmland habitats.

2.31 Furthermore, the ZoI is likely to be influenced by design effects of the Project proposals including lighting and noise during both the construction and operational phases.

2.32 Additionally, the ZoI is also likely to be influenced by management of any remaining habitats with the Site and adverse effects on adjacent land parcels.

2.33 The potential ZoI of the Project is also likely to vary dependent on the bird species, and this is likely to be associated with the relative foraging distances during winter and post-juvenile dispersal.

2.34 These potential impacts could adversely affect the ecological importance of the local and wider wintering bird populations, including for species such as skylark (*Alauda arvensis*) and yellowhammer (*Emberiza citrinella*), whose wintering ranges may cover the Site as well as adjacent off-Site areas.

2.35 Therefore, in the absence of appropriate avoidance, mitigation and compensation measures, the potential ZoI of the Project, in relation to wintering birds, is likely to extend to the Site and those habitats that fall within c.100-200m beyond this based on a review of combination of disturbance assessment studies including Cutts, N et al. (2013), Fernandez-Juricic, E et al (2001) and McClure, C (2013).

2.36 The potential ZoI of the proposed scheme is also likely to vary dependent on the bird species, and this is likely to be associated with the relative foraging distances during winter and post-juvenile dispersal.

2.37 The ZoI will also extend to those locations where off-Site impacts might occur.

SURVEY LIMITATIONS

2.38 An ecological survey represents a structured sampling of the ecological condition of a site. The ecological character of a site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.

2.39 The aim of a desk study is to help characterise the baseline context of the site and provide valuable background information that would not be captured by a single site survey alone. Information obtained during a desk study was dependent upon people and organisations having made and submitted records for the area of interest. A lack of records for a particular habitat or species does not necessarily

mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Project.

2.40 The content detailed in the criteria for LWS in Kent (KWT, 2022) cannot be readily applied to the evaluation of winter farmland bird assemblages.

2.41 No access to the Sellindge Substation Area was available during the surveyed winter seasons, although adjacent and comparable habitats were subject to survey to enable assessment of the Site as a whole.

2.42 During the winter months, land use by birds can be influenced by various factors e.g. disturbance, weather patterns and the availability of suitable habitat. Periods of cold weather can cause long distance movements and the arrival of birds from other areas. Birds also move between suitable habitats depending on the availability of seasonal food.

2.43 Given the potential for fluctuating populations, changes in land management, seasonal weather changes and food availability, wintering bird populations may vary within an area between years.

2.44 During the winter, birds which regularly use an area for feeding and roosting can move elsewhere within the wider area over the period of a survey. Therefore, birds using an area for feeding and roosting can be feeding elsewhere on a survey visit making it possible that they can be missed when undertaking a single monthly survey visit.

2.45 During the February and March survey visits, Area C was flooded and surveyors were unable to access the fields adjacent Backhouse Wood or Area F. During these visits, the surveyors carried out a point count (stopping, visually scanning and listening for birds) rather than walking a transect.

2.46 Bird survey visits were conducted within the optimum time for detecting overwintering birds and overall, it is assessed that there are no significant limitations to the survey results.

3. RESULTS

DESK STUDY

BIOLOGICAL RECORDS

3.1 Of those relevant potential wintering bird species, the review of the returned records from KMBRC indicates that the following additional species (to those recorded during survey) occurred within the search area over the last 10 years (dates are of the most recent winter record): tree sparrow (*Passer montanus*) on 08/11/2017 and corn bunting (*Emberiza calandra*) on 05/03/2008.

3.2 The number of records of these species are: 10 for tree sparrow and nine for corn bunting.

3.3 Results returned from KMBRC of statutory and non-statutory designated sites indicate that there are no statutory sites within the data search area and five LWSs providing woodland and pasture habitats. Given the required bird criteria, it is unlikely that these LWS have been designated for their winter bird assemblages.

DESIGNATED SITES CONTEXT

3.4 A number of international designations of ornithological interest are within 10km of the Site as follows:

- Dungeness Romney Marsh and Rye Bay Ramsar and SPA is located approximately 6.5km to the south-west of the Site, at its closest point.

Dungeness Romney Marsh and Rye Bay Ramsar

3.5 The site qualifies under Criterion 5 because it regularly supports:

- *'20,000 or more waterbirds: • In the non-breeding season, the site regularly supports 34,957 individual waterbirds (5 year peak mean 2002/3 – 2006/7). '*

3.6 The site qualifies under Criterion 6 because it regularly supports over 1% of the individuals in the populations of the following species or subspecies of waterbird in any season:

- *'Mute swan Cygnus olor 348 individuals – wintering 5 year peak mean 2002/3 – 2006/7 1.1% Britain*
- *Shoveler Anas clypeata 485 individuals – wintering 5 year peak mean 2002/3 – 2006/7 1.2% NW & C Europe (non-breeding)'*

Dungeness Romney Marsh and Rye Bay SPA

3.7 The site qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I relevant to winter or passage:

Qualifying features with counts remaining as at 2016 classification using data in Departmental Brief published in 2010:

- *Avocet Recurvirostra avosetta 31 pairs – breeding (5 year mean 2004-2008) 3.5% of GB population Annex 1*

- *Bewick's swan Cygnus columbianus bewickii 155 individuals – wintering (5 year peak mean 2002/3 – 2006/7) 1.9% of GB population Annex 1*
- *Bittern Botaurus stellaris 5 individuals – wintering (5 year peak mean 2002/3 – 2006/7) 5.0% of GB population Annex 1*
- *Hen Harrier Circus cyaneus 11 individuals – wintering (5 year peak mean 2002/3 – 2006/7) 1.5% of GB population Annex 1*
- *Golden Plover Pluvialis apricaria 4,050 individuals – wintering (5 year peak mean 2002/3 – 2006/7) 1.6% of GB population Annex 1*
- *Ruff Philomachus pugnax 51 individuals – wintering (5 year peak mean 2000/01- 2004/5) 7.3% of GB population Annex 1*
- *Aquatic warbler Acrocephalus paludicola 2 individuals – passage (5 year mean 2004-2008) 6.1% of GB population Annex 1*
- *Marsh harrier Circus aeruginosus 4 females – breeding (5 year mean 2004-2008) 2% of GB population Annex 1*

3.8 The site also qualifies under Article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species

- *'Shoveler Anas clypeata 485 individuals – wintering (5 year peak mean 2002/3 – 2006/7) 1.2% NW & C Europe (non-breeding) Migratory'*

3.9 The site *also* qualifies under article 4.2 of the Directive (2009/147/EC) *due to*

'as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season: During the period 2002/03 – 2006/07, Dungeness, Romney Marsh and Rye Bay SPA (including proposed extensions) supported an average peak of *34,625 individual waterbirds in the non-breeding season, comprised of almost 16,000 wildfowl and over 19,000 waders'*

3.10 Due to the international importance of these sites, the presence of any qualifying species is addressed within the *Evaluation* section.

3.11 A review of other statutory and non-designated sites within 2km found that other designated sites were designated primarily for their habitats without detailed ornithological criteria. As a result, where species assemblages may be relevant to connected designated site habitats these will be reviewed but focus is made upon the internationally designated sites listed above.

FIELD SURVEY

OVERALL RESULTS (ALL SURVEY AREAS COMBINED)

3.12 53 species were recorded across all the survey areas of the Site during the survey visits. All species were recorded directly using the Site.

3.13 Of these species;

- Nine are listed as a Species of Principal Importance: herring gull (*Larus argentatus*), skylark, starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), dunnock (*Prunella*

modularis), bullfinch (*Pyrrhula pyrrhula*), yellowhammer and reed bunting (*Emberiza schoeniclus*).

- Ten are red status species: snipe (*gallinago gallinago*), herring gull, skylark, starling, fieldfare (*Turdus pilaris*), redwing (*Turdus iliacus*), mistle thrush (*Turdus viscivorus*), house sparrow, linnet (*Linaria cannabina*) and yellowhammer.
- 16 are amber status species: greylag goose (*Anser anser*), pink footed goose (*Anser brachyrhynchus)*, mallard (*Anas platyrhynchos*), stock dove (*Columba oenas*), woodpigeon (*Columba palumbus*), rook (*Corvus frugilegus*), black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*), kestrel (*Falco tinnunculus*), wren (*Troglodytes troglodytes*), song thrush, dunnock, grey wagtail (*Motacilla cinerea*), meadow pipit (*Anthus pratensis*), bullfinch and reed bunting.
- Three species using the Site, kingfisher (*Alcedo atthis)*, fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA), however this is relevant to breeding only.

3.14 A summary of the species recorded, along with their respective peak for each survey area and a peak count recorded by date is provided in the overleaf table 4..

3.15 Where species are recorded in large numbers in differing survey areas, reference to the combined total is used as an indication of the Site's value for birds but used with caution during evaluation (e.g. moving winter flocks could be counted on more than one transect).

3.16 The highest recorded peak count per parcel is more robust as this represents birds seen on a single date and therefore unlikely to include double counts. These counts in isolation also provide a comparative illustration of the potential value for each survey area for each species.

3.17 Table 4 is followed by sections providing a species breakdown by survey area.

Table 4: Results of Winter Bird Results by Survey Area

Species	Species code	Status	Area A	Area B	Area C and F	Area D	Area E	Largest observed single survey count
			Notes	Notes	Notes	Notes	Notes	
Pheasant *Phasianus colchicus*	PH	No status	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	N/A
Canada goose *Branta canadensis*	CG	Green	NR	NR	<5 recorded on two survey visits	NR	NR	N/A
Egyptian goose *Alopochen aegyptiaca*	EG	No status	NR	NR	Five recorded on 12/02/2024	NR	NR	N/A
Greylag goose	GJ	Amber: WL, WI	NR	NR	Recorded on most survey visits with peak count of 18 recorded on 01/03/2024	NR	NR	Peak count of 18 recorded in the flooded fields within Area C on 01/03/2024
Pink-footed goose	PG	Amber	NR	NR	Recorded on a single survey with a max flock of 20 recorded on 12/02/2024	NR	NR	Max flock of 20 recorded in the flooded fields within Area C on 12/02/2024
Mallard	MA	Amber: WDMp1/2	Recorded on a single survey	NR	Recorded on all survey visits with peak and max flock of 8.	NR	NR	Max flock of 8 recorded in the flooded fields within Area C on 12/02/2024
Stock dove	SD	Amber: BI	Four recorded on one visit, 15/12/2024	NR	Single recorded on one visit, 25/01/2024	NR	Single recorded on one visit, 25/01/2024	N/A
Woodpigeon	WP	Amber: BI	Recorded on all survey visits with a peak count of 85 and max flock of 59 recorded on 01/03/2024	Between 20-40 recorded on all survey visits	Low numbers, <10, recorded on most survey visits	Low numbers, <10, recorded on most survey visits	Recorded on most survey visits with max flock of *c.*400 on 25/01/2024	Max flock of *c.*400 on 25/01/2024 moving between Areas B and E.
Moorhen *Gallinula chloropus*	MH	Green	NR	NR	Low numbers recorded throughout Area C on most survey visits.	NR	NR	N/A

Species	Species code	Status	Area A	Area B	Area C and F	Area D	Area E	Largest observed single survey count
			Notes	Notes	Notes	Notes	Notes	
Snipe	SN	Red: ERLOB, WDMp1, BDMr2	Recorded on a single survey with 3 birds flushed on 15/12/2023	Recorded on two survey visits with 4 birds flushed on 25/01/2024 and 18 birds (max flock of 15) flushed on 01/03/2024	Recorded on a single survey with a single bird flushed on 15/12/2023	NR	NR	Peak count of 18 birds (max flock of 15) flushed on 01/03/2024. Likely to be an under-recorded species.
Black-headed gull	BH	Amber: WDMp1, WI	NR	NR	Recorded on most survey visits with peak count of *c.*200 recorded using the flooded fields on 12/02/2024	NR	NR	Peak count of *c.*200 recorded using the flooded fields on 12/02/2024
Common gull	CM	Amber: WI	NR	Six recorded on a single visit 25/01/2024	NR	NR	NR	N/A
Herring gull	HG	Section 41 species. Red: BDp2, WDp1, BI, WI	Recorded on most survey visits	Recorded on a single survey	Recorded on most survey visits – peak count of *c.*50 recorded on 12/02/2024	NR	Recorded on a single survey	Peak count of *c.*50 recorded in the flooded fields within Area C on 12/02/2024
Cormorant *Phalacrocorax carbo*	CA	Green	NR	NR	Recorded on most survey visits – peak count of 9 recorded on 15/12/2023	NR	NR	Peak count of 9 recorded in Area C on 15/12/2023
Grey heron *Ardea cinerea*	H.	Green	NR	NR	Recorded on most survey visits	NR	Recorded on most survey visits	N/A
Buzzard *Buteo buteo*	BZ	Green	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	NR	Recorded on all survey visits	N/A
Kingfisher	KF	WCA Sch1. Green	NR	NR	Single recorded flying along the River Stour on 25/01/2024	NR	NR	N/A
Great spotted woodpecker *Dendrocopos major*	GS	Green	Recorded on a single survey	NR	Recorded on a single survey	Recorded on a single survey	NR	N/A
Green woodpecker *Picus viridis*	G.	Green	NR	Recorded on a single survey	Recorded on a single survey	NR	NR	N/A

Species	Species code	Status	Area A	Area B	Area C and F	Area D	Area E	Largest observed single survey count
			Notes	Notes	Notes	Notes	Notes	
Kestrel	K.	Amber: BDMp1/2	Recorded on a single survey visit	NR	NR	Recorded on a single survey visit	Recorded on a single survey visit	N/A
Jay *Garrulus glandarius*	J.	Green	Recorded on most survey visits	NR	Recorded on a single survey	Recorded on a single survey	Recorded on a single survey	N/A
Magpie *Pica pica*	MG	Green	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	N/A
Jackdaw *Corvus monedula*	JD	Green	Recorded on most survey visits for foraging in low numbers with max flock of 25 on 25/01/2024.	Recorded on most survey visits for foraging with peak count of 71 max flock of 40 on 25/01/2024	Two recorded on a single survey, 15/12/2023.	NR	Recorded on most survey visits for foraging with max flock of 17 outside the boundary.	N/A
Rook	RO	Amber: ERLOB	Recorded on most survey visits with a max flock of *c*.55 recorded on 01/03/2024	Small numbers <10 recorded on most survey visits	Single recorded on one visit, 15/12/2023	NR	Max flock of *c*.200 recorded on a single survey 12/02/2024	Max flock of *c*.200 recorded on 12/02/2024
Carrion crow *Corvus corone*	C.	Green	Recorded on all survey visits	Recorded on all survey visits with a max flock of 150 on 12/02/2024	Recorded on most survey visits	Recorded on a single survey visit	Recorded on most survey visits	Max flock of 150 on 12/02/2024
Blue tit *Cyanistes caeruleus*	BT	Green	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	N/A
Great tit *Parus major*	GT	Green	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	N/A

Species	Species code	Status	Area A Notes	Area B Notes	Area C and F Notes	Area D Notes	Area E Notes	Largest observed single survey count
Skylark	S.	Section 41 species. Red: BDp2	Recorded on all survey visits Bird registrations: • Peak count of 44 and max flock of 27 on 15/12/2023 • Two on 25/01/2024 • Peak count of 32 with max flock of 16 on 12/02/2024 • Peak count of 10 on 01/03/2024	Recorded on all survey visits Bird registrations: • Three on 15/12/2023 • Peak count of 13 on 25/01/2024 • Peak count of 24 with max flock of 4 on 12/02/2024 • Peak count of 35 with max flock of 12 on 01/03/2024	NR	NR	Recorded on most survey visits Bird registrations: • NR on 15/12/2023 • Peak count of 16 with max flock of 6 on 25/01/2024 • Peak count of 17 with max flock of 5 on 12/02/2024 • Peak count of 4 on 01/03/2024	Peak count of 73 recorded across the Site on 12/02/2024.
Long-tailed tit *Aegithalos caudatus*	LT	Green	Recorded on most survey visits (3-5 individuals).	NR	Recorded on most survey visits (3-4 individuals).	NR	NR	N/A
Chiffchaff *Phylloscopus collybita*	CC	Green	NR	Recorded on a single survey visit	Recorded on a single survey visit	NR	NR	N/A
Blackcap	BC	Green	NR	NR	Recorded in Area F on one visit 25/01/24	NR	NR	N/A
Goldcrest *Regulus regulus*	GC	Green	NR	NR	Single recorded in Area C on 25/01/2024	NR	NR	N/A
Wren	WR	Amber: BI	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Average of 13 individuals recorded across the Site during all survey visits
Treecreeper *Certhia familiaris*	TC	Green	NR	NR	Peak count of 3 recorded on a single visit, 25/01/2024.	NR	NR	N/A

Species	Species code	Status	Area A Notes	Area B Notes	Area C and F Notes	Area D Notes	Area E Notes	Largest observed single survey count
Starling	SG	Section 41 species. Red: BDp1/2	Recorded on most survey visits in low numbers <10.	Recorded on most survey visits Bird registrations: • Peak count of 145 with max flock of 90 on 25/01/2024 • Peak and max flock of 200 on 01/03/2024	Max flock of 8 on one occasion on 15/12/2024.	NR	Recorded on most survey visits Bird registrations: • Peak and max flock of 140 on 01/03/2024	Peak count of 348 with max flock of 200 recorded across the Site on 01/03/2024
Blackbird *Turdus merula*	B.	Green	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	Recorded on all survey visits	N/A
Fieldfare	FF	WCA Schedule 1 species Red: BDP1/2, BDr1, BDMr2, BR	Recorded on all survey visits Bird registrations: • NR on 15/12/2023 • Peak and max flock of 50 on 25/01/2024 • Peak count of 383 and max flock of 236 on 12/02/2024 • Two on 01/03/2024	Recorded on all survey visits Bird registrations: • Peak count of 109 with max flock of 58 on 15/12/2023 • Peak count of 85 with max flock of 60 on 25/01/2024 • Peak count of 51 with max flock of 36 on 12/02/2024 • Peak and max flock of 160 on 01/03/2024	Recorded on most survey visits Bird registrations: • Peak count of 19 with max flock of 8 on 15/12/2023 • Peak and max flock of 38 on 25/01/2024 • NR on 12/02/2024 • NR on 01/03/2024	Single recorded on 12/02/2024	Recorded on most survey visits Bird registrations: • NR on 15/12/2023 • NR on 25/01/2024 • 4 on 12/02/2024 • Max flock of 45 on 01/03/2024	Peak count of 439 and max flock of 272 recorded across the Site on 12/02/2024.
Redwing	RE	WCA Schedule 1 species. Red: BDMr1/2, BR	Recorded on all survey visits Bird registrations: • Single on 15/12/2023 • Peak count of 26 with max flock of 9 on 25/01/2024 • Single on 12/02/2024 • Peak count of 28 with max flock of 23 on 01/03/2024	Recorded on most survey visits Bird registrations: • Peak count of 7 on 15/12/2023 • Single on 25/01/2024 • NR on 12/02/2024 • Peak count of 108 with max flock of 94 on 01/03/2024	Recorded on most survey visits Bird registrations: • Peak count of 23 with max flock of 20 on 15/12/2023 • Peak count of 15 with max flock of 6 on 25/01/2024 • NR on 12/02/2024 • Peak count of 17 with max flock of 9 on 01/03/2024	Recorded on most survey visits Bird registrations: • NR on 15/12/2023 • Peak count of 5 on 25/01/2024 • NR on 12/02/2024 • Peak count and max flock of 35 on 01/03/2024	Recorded on most survey visits Bird registrations: • Two on 15/12/2023 • Peak count of 37 and max flock of 32 on 25/01/2024 • NR on 12/02/2024 • NR 01/03/2024	Peak 188 across the Site with combined max flock of 161 recorded on 01/03/2024

Species	Species code	Status	Area A	Area B	Area C and F	Area D	Area E	Largest observed single survey count
			Notes	Notes	Notes	Notes	Notes	
Song Thrush	ST	Section 41 species. Amber: BDMp2	Recorded on all survey visits	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Peak count of 25 recorded across Area A and B on 15/12/2023 with a max flock of 12 in Area A.
Mistle thrush	M.	Red: BDp2, BDMp1	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	NR	NR	Max flock of three recorded in Area B on 25/01/2024, all other surveys recorded single individuals or pairs.
Robin *Erithacus rubecula*	R.	Green	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	N/A
House Sparrow	HS	Section 41 species. Red: BDp2	Recorded on all survey visits primarily adjacent the buildings around Bank Farm.	NR	NR	NR	Recorded on a single visit 15/12/2023.	N/A
Dunnock	D.	Section41 species. Amber: BDMp2	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on most survey visits.	Recorded on most survey visits.	Recorded on most survey visits.	N/A
Grey wagtail	GL	Amber: BDMp2	NR	NR	Recorded on two survey visits with peak count of four recorded on 15/12/2023	NR	NR	N/A
Pied Wagtail *Motacilla alba*	PW	Green	Recorded on all survey visits.	Recorded on most survey visits.	Recorded on most survey visits.	Recorded on most survey visits.	Recorded on most survey visits.	N/A
Meadow pipit	MP	Amber: BDMp2	Recorded on most survey visits. Bird registrations: • Peak count of 6 on 15/12/2023 • NR on 25/01/2024 • Single on 12/02/2024 • Three on 01/03/2024	Recorded on most survey visits. Bird registrations: • NR on 15/12/2023 • NR on 25/01/2024 • Peak count of 8 on 12/02/2024 • Peak count of 5 on 01/03/2024	Recorded on most survey visits. Bird registrations: • NR on 15/12/2023 • Single on 25/01/2024 • NR on 12/02/2024 • Single on 01/03/2024	Recorded on most survey visits. Bird registrations: • Single on 15/12/2023 • NR on 25/01/2024 • Two on 12/02/2024 • Peak count of 6 on 01/03/2024	Recorded on most survey visits. Bird registrations: • NR on 15/12/2023 • Peak count of 5 on 25/01/2024 • NR on 12/02/2024 • NR on 01/03/2024	Low numbers, <10, across the Site.

Species	Species code	Status	Area A Notes	Area B Notes	Area C and F Notes	Area D Notes	Area E Notes	Largest observed single survey count
Chaffinch *Fringilla coelebs*	CH	Green	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	Recorded on all survey visits.	N/A
Bullfinch	BF	Section 41 species. Amber: BDMp2	NR	NR	Single recorded on 15/12/2023 and 25/01/2024	Pair recorded on 15/12/2023 and single recorded on 12/02/2024	NR	Pair recorded in Area D on 15/12/2023
Linnet	L.	Red: BDp2	Single recorded on 25/01/2024, two recorded on 12/02/2024.	Peak count of 52 with max flock of 36 recorded on 12/12/2023. Max flock of 12 recorded on 25/01/2024 Two recorded on 12/02/2024 and 01/03/2024	Two recorded in Area C on 25/01/2024, single recorded on 12/02/2024	NR	Peak count of three recorded on 12/02/2024.	Peak count of 52 with max flock of 36 recorded in Area B on 12/12/2023.
Goldfinch *Carduelis carduelis*	GO	Green	Recorded on every survey visit	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Recorded on most survey visits	Max flock of 55 recorded in Area C on 25/01/2024.
Siskin *Spinus spinus*	SK	Green	NR	NR	Three recorded on a single visit, 25/01/2023	Single individual recorded on a single visit, 25/01/2023	NR	N/A
Yellowhammer	Y.	Section 41 species. Red: BDp2, BDMp1	Recorded on two survey visits Bird registrations; • Peak count of 6 and max flock of 1 on 15/12/2023 • NR on 25/01/2024 • Peak count of 15 and max flock of 5 on 12/02/2024 • NR on 01/03/2024	Recorded on all survey visits. Bird registrations; • Peak count of 15 and max flock of 4 on 15/12/2023 • Peak count of 22 and max flock of 10 on 25/01/2024 • Peak count of 52 and max flock of 30 on 12/02/2024 • Peak count of 5 and max flock of 2 on 01/03/2024	Recorded on two survey visits within Area C. Not recorded in Area F. Bird registrations; • NR on 15/12/2023 • 2 singles on 25/01/2024 • Peak count of 6 with max flock of 2 on 12/02/2024 • NR on 01/03/2024	Recorded on three survey visits Bird registrations; • Peak count of 19 and max flock of 12 on 15/12/2023 • 2 singles on 25/01/2024 • Peak count of 6 with max flock of 3 on 12/02/2024 • NR on 01/03/2024	Recorded on two survey visits. Bird registrations; • NR on 15/12/2023 • Single on 25/01/2024 • Peak count of 13 and max flock of 5 on 12/02/2024 • NR on 01/03/2024	Site-wide peak count of 92 with max flock of 43 recorded on 12/02/2024. Largest aggregations regularly recorded within Area B

Species	Species code	Status	Area A	Area B	Area C and F	Area D	Area E	Largest observed single survey count
			Notes	Notes	Notes	Notes	Notes	
Reed bunting	RB	Section 41 species. Amber: BDMp2	NR	Recorded on three survey visits with peak counts of 5 recorded on 25/01/2024, 6 recorded on 12/02/2024 and 10 recorded on 01/03/2024	NR	NR	NR	Max flock of 10 recorded in Area B on 01/03/2024

RESULTS FOR SURVEY AREA A

3.18 In total, 33 species were recorded during the survey visits.

3.19 Of these, ten are red status species: snipe, herring gull, skylark, starling, fieldfare, redwing, mistle thrush, house sparrow, linnet and yellowhammer and nine are amber status species: mallard, stock dove, woodpigeon, kestrel, rook, wren, song thrush, dunnock and meadow pipit.

3.20 Of these species seven are listed as a Species of Principal Importance: herring gull, skylark, starling, song thrush, house sparrow, dunnock and yellowhammer.

3.21 Two species: fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

RESULTS FOR SURVEY AREA B

3.22 In total, 31 species were recorded during the survey visits.

3.23 Of these, nine are red status species: snipe, herring gull, skylark, starling, fieldfare, redwing, mistle thrush, linnet and yellowhammer and eight are amber status species: woodpigeon, common gull, rook, wren, song thrush, dunnock and meadow pipit and reed bunting.

3.24 Of these species seven are listed as a Species of Principal Importance: herring gull, skylark, starling, song thrush, dunnock, yellowhammer and reed bunting.

3.25 Two species: fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

RESULTS FOR SURVEY AREAS C AND F

3.26 In total, 48 species were recorded during the survey visits.

3.27 Of these, eight are red status species: snipe, herring gull, starling, fieldfare, redwing, mistle thrush, linnet and yellowhammer and 13 are amber status species: greylag goose, pink-footed goose, mallard, stock dove, woodpigeon, black-headed gull, rook, wren, song thrush, dunnock, grey wagtail, meadow pipit and bullfinch.

3.28 Of these species six are listed as a Species of Principal Importance: herring gull, starling, song thrush, dunnock, bullfinch and yellowhammer.

3.29 Three species: kingfisher, fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA)

RESULTS FOR SURVEY AREA D

3.30 In total, 23 species were recorded during the survey visits.

3.31 Of these, three are red status species: fieldfare, redwing and yellowhammer and seven are amber status species: woodpigeon, kestrel, wren, song thrush, dunnock, meadow pipit and bullfinch.

3.32 Of these species four are listed as a Species of Principal Importance: song thrush, dunnock, bullfinch and yellowhammer.

3.33 Two species: fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

RESULTS FOR SURVEY AREA E

3.34 In total, 30 species were recorded during the survey visits.

3.35 Of these, eight are red status species: herring gull, skylark, starling, fieldfare, redwing, house sparrow, linnet and yellowhammer and eight are amber status species: stock dove, woodpigeon, kestrel, rook, wren, song thrush, dunnock and meadow pipit.

3.36 Of these species seven are listed as a Species of Principal Importance: herring gull, skylark, starling, song thrush, house sparrow, dunnock and yellowhammer.

3.37 Two species: fieldfare and redwing are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

4. EVALUATION

SUMMARY

4.1 Of the bird species recorded, given the total of bird species and peak counts, the Site is likely to be of ecological importance at a Local (district) level for its wintering bird assemblage and the following levels of importance for individual species:

- County importance for wintering yellowhammer (based on peak counts); and
- Local (district) importance for wintering skylark (based on peak counts).

4.2 Overall, the Site is considered to support a typical winter bird assemblage for intensively managed farmland with small woodland pockets and ditch habitats. The majority of birds encountered are common and widespread species of low conservation concern.

4.3 Bird species recorded on Site were registered utilising the woodland edges, hedgerows, scrub, temporary waterbodies within flooded fields and ditch habitat and any adjacent gardens and associated buildings.

4.4 No species listed on the qualifying criteria for the Dungeness Romney Marsh and Rye Bay SPA and Ramsar were recorded, therefore no further evaluation has been undertaken in respect of these sites.

CONSERVATION STATUS

4.5 A total of 53 bird species were recorded within the Site. Of these, 37 are notable species as follows:

- 12 are listed as a Species of Principal Importance: lapwing, herring gull, skylark, starling, song thrush, house sparrow, dunnock, bullfinch, linnet, lesser redpoll, yellowhammer and reed bunting.
- 14, are red status species: lapwing, snipe , woodcock, herring gull, skylark,, starling , fieldfare , redwing, mistle thrush , house sparrow , linnet, lesser redpoll , greenfinch and yellowhammer .
- 19 are amber status species: greylag goose, mallard, stock dove, woodpigeon, green sandpiper, sparrowhawk, rook, black-headed gull, Mediterranean gull, common gull, lesser black-backed gull, kestrel, wren, song thrush, dunnock, grey wagtail, meadow pipit, bullfinch and reed bunting.
- Six species are listed under Schedule 1 of the Wildlife and Countryside Act 1981 (WCA) using the Site: Mediterranean gull, green sandpiper, kingfisher, Cetti's warbler, fieldfare and redwing, though noting these species are recorded as winter visitors only.

4.6 Due to the large size of the Site and combination of habitats present, this assemblage is assessed as typical for the local area and much of the county. These notable species have however been further assessed in relation to abundance, species diversity, habitat importance and ZoI below.

SPECIES ABUNDANCE

4.7 At a national level, no counts of any wintering bird species recorded within the Site approach 1% of national wintering population estimates (Woodward et al., 2020). As such, the Site did not support wintering populations of national importance for any species.

4.8 At a county level, peak counts recorded during the field survey were compared with those detailed within the Kent Bird Reports (Kent Ornithological Society, 2019-2020). All species were recorded in low numbers in comparison with county records aside from the species discussed below:

- Given the peak count of 92 wintering yellowhammer across the Site on 12/02/2024 (and consistent recording of smaller groups of <30 across the Site on other visits), the Site is assessed as being of County importance for wintering yellowhammer.
- Given the maximum count of 73 wintering skylark across the Site (Area A, B and E) on 12/02/2024 (along with consistent recording of c.40 individuals during all other visits), the Site is assessed as being of Local (district) importance for wintering skylark at an inland location.

4.9 Of the other bird species recorded, given the total number of bird species and the peak counts of the species recorded, the Site is assessed as being of ecological importance at the Local (district) level for its wintering bird assemblage.

4.10 The Site is unlikely to meet Kent LWS selection criteria (which are often used to inform assessments of whether a recorded species population / assemblage may be of county level importance) but it is noted that a small number of Kent Red Data Book species (cormorant, grey heron and little egret) have been recorded on occasion within the Site. The on-Site habitats are however similar to abundant agricultural habitats within the district.

HABITAT AND DISTRIBUTION

4.11 Habitats of key value for wintering birds within the Site are the connected network of hedgerow, woodland parcels and field margins for small passerines as well as riparian habitats associated with the East Stour River.

4.12 During the winter bird survey, it was noted that a large portion of Area C was flooded due to the high rainfall across the winter months. These flooded areas were utilised by large flocks of gulls and small groups of geese.

4.13 During the breeding bird survey in 2022, it was noted that the Site supports wide field margins with tall herbaceous vegetation that are adjacent to the crop and provides hedgerows with a dense vegetated understorey. However, the 2023/2024 breeding and wintering surveys noted that these margins were reduced in width and that this was likely to impact the availability of foraging habitat in the summer / winter months.

4.14 Open arable expanses were used irregularly by aggregations of gulls and foraging and roosting farmland birds but were generally of lower value than boundary habitats.

4.15 Species distribution was generally as expected (species corresponding to their traditional habitat association), with the exception of notable yellowhammer and skylark numbers in Area B.

ZONE OF INFLUENCE

4.16 There will be a likely adverse impact to wintering skylarks within the ZoI of the Project where the design of the Project creates structures within or adjacent to suitable skylark wintering habitat, noting this species prefers open fields and uninterrupted sight lines.

4.17 Given the winter use of hedgerows by yellowhammers, should the Project result in loss or reduction of linked hedgerows that extend out of the Site into adjacent land parcels then there will be a likely adverse effect to wintering yellowhammers.

POTENTIAL IMPACTS FOR FURTHER ASSESSMENT

4.18 Details of impact assessment, avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report. Instead, these measures are summarised and assessed within the **ES Volume 2: Chapter 9 Biodiversity (Doc Ref. 5.2)** [APP-033], which remain appropriate following evaluation of the 2023 – 2024 winter survey results These measures are set out in detail within the associated **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**.

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6. ANNEX 1: SUMMARY OF LEGISLATION AND GUIDANCE

LEGISLATION

6.1 The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.

6.2 The legal protection afforded to protected species overrides all planning decisions.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

6.3 The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended).

6.4 When breeding, all birds, their nest, eggs and nestlings are afforded protection under the Wildlife and Countryside Act 1981, as updated by the 'Countryside Right of Way Act 2000'). Therefore, it is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- intentionally take or destroy the eggs of any wild bird.

6.5 Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) for which there are additional offences for disturbing these birds at their nest, or their dependent young. Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Generally, no licences are available for disturbance during a Project even in circumstances where that Project is consented including a valid planning permission.

DIRECTIVE OF THE CONSERVATION OF WILD BIRDS 2009 / CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017 (AS AMENDED)

6.6 A number of bird species recorded in the UK (including those that are resident, overwintering and migratory) are protected at a European level under the European Commission (EC) Directive of the Conservation of Wild Birds 2009 (2009/147/EC). The Directive applies to 193 bird species or sub-species which are:

- a. in danger of extinction;
- b. rare, or have restricted local distribution;
- c. vulnerable to specific changes in their habitat; or
- d. in need of particular attention for reasons of the specific nature of their habitat.

6.7 These species are afforded enhanced legal protection and EU member states have a responsibility to maintain the populations of these species at a level that corresponds to their ecological, scientific and cultural requirements (Article 2). This Directive was transposed into English law through the Conservation of Habitats and Species Regulations 2017 (as amended).

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

6.8 The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

6.9 Species listed on Annex 1 of the Directive are those for which the UK Government is required to take special conservation measures including the designation of land as Special Protection Areas (SPAs) to ensure the survival and reproduction of these species throughout their distributions.

6.10 These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (referred to as the 2019 Regulations) have created a national site network on land

2. These sites are automatically included within the Bern Convention Emerald Network; a network of core breeding and resting sites that are protected for rare and threatened species. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

THE NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006 (AS AMENDED)

6.11 Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions.

6.12 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 has been used to identify habitats and species considered to be a conservation priority at a national scale. These are also called Habitats or Species of Principal Importance. The importance of these habitats and species are recognised in the National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government, 2019).

6.13 The list of 49 bird 'priority species' comprises those identified as requiring action under the UK Biodiversity Action Plan (UKBAP), which continue to be regarded as species of conservation priority under the UK Post-2010 Biodiversity Framework (succeeded the UKBAP in July 2012).

PLANNING POLICY

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

6.14 In addition to primary legislation, the government published the National Planning Policy Framework on 12th December 2024. Within the NPPF, Chapter 15 is headed *Conserving and enhancing the natural environment* (Paragraphs 187 to 195).

6.15 Of relevance are the following statements: -

'Planning policies and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures (Paragraph 187d).

6.16 Paragraph 188 states that: -

'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'

6.17 To protect and enhance biodiversity and geodiversity, 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 (Paragraph 192a); 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.' (Paragraph 192b).

6.18 When determining planning applications, local planning authorities should apply the following principles (Paragraph 193): -

'a) 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;

b) 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;

c) 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

d) 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.'

6.19 In addition to the above, Paragraph 194 confirms that the following should be afforded the same protection as sites that are included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (as amended) (Special Areas of Conservation, Sites of Community Importance, Special Protection Areas and any relevant Marine Sites (which are collectively referred to as 'habitats sites' in the NPPF)): -

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) 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.'

6.20 Paragraph 195 states that: -

'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.'

6.21 This statement applies to the assessment of effects in relation to all confirmed, possible, potential and/or proposed designated sites of international importance.

GUIDANCE

KENT LOCAL WILDLIFE SITE SELECTION CRITERIA

6.22 In Kent an individual LWS can be selected for birds if it meets the criteria within Kent Local Wildlife Site Selection Criteria (Kent Wildlife Trust, 2022). These guidelines state that the criterion for selection of Local Wildlife Sites applies to birds as follows

'Birds

133) A set of criteria has been established by Kent Ornithological Society, as the relevant expert organisation, for the selection of Wildlife Sites on the basis of their bird fauna (which is here taken to mean the naturally occurring populations of wild birds on a site). The criteria are based on established criteria for the selection of Sites of Special Scientific Interest, and on the Kent Red Data Book.

134) The criteria are intended to be applied to areas of habitat which are more-or-less discrete and homogenous. For example, a large block of woodland should not be treated as part of the same site as a large block of farmland. However, an intimately mixed area of small fields, hedges and small woods may be treated as a unit, as may the mix of scrub, swamp, marsh and open water vegetation associated with flood plains or around abandoned quarries.

135) The criteria have been designed to recognise

a) The rarity of certain breeding and wintering bird species;

b) Birds which may be considered vulnerable because their populations are in decline;

c) Birds which are vulnerable because of their colonial nesting habitats;

d) Birds which may be considered vulnerable because their non-breeding populations are

concentrated in a small number of sites; and

e) Sites of importance for the presence of a diversity of species.

A site should be selected as a Local Wildlife Site if it can be considered as a single, identifiable unit (as explained above) in terms of its bird fauna and where

• It is occupied regularly by at least 2.5% of the county population of any one or more bird species, based on the most recent and authoritative data;

OR

• It is occupied regularly as a breeding site by species with a Kent population of 50 or fewer territories;

OR

• It holds ten or more Kent Red Data Book 2 (KRDB2) species in the breeding season;

OR

• It holds three or more Kent Red Data Book 3 (KRDB3) species at the appropriate time of year (normally this should not include a combination of breeding and wintering species);

OR

• It holds one of the five largest colonies of colonial seabirds (with the exception of herring gull and black-headed gull), grey heron, little egret or sand martin;

OR

• It is occupied regularly by 5% or more of the county population of any one or more species in non-breeding seasons, based on the most recent and authoritative data;

OR

• It has been recorded as being regularly used in recent years by at least 50 breeding bird species;

OR

• It has been recorded as being regularly used in recent years by at least 60 wintering bird species;

OR

• It has been recorded as being regularly used in recent years by at least 100 passage bird species.

BIRDS OF CONSERVATION CONCERN (BOCC)

6.23 Although it does not offer any legal protection, Birds of Conservation Concern 5 (Stanbury *et al.*, 2021) provides guidance on the conservation status of UK bird species. Thus, it can be used to inform judgements on the ecological importance of bird populations and the habitats that they rely on, particularly at a local level.

6.24 The Birds of Conservation Concern (BoCC) assigns bird species red and amber status based on a set of criteria that are summarised in the following table 5. Red status species are those species of highest conservation concern and green status species are those of low or no conservation concern. Amber status species are those species of some conservation concern.

Table 5: Birds of Conservation Concern (BoCC) red and amber list criteria.

Criteria	BoCC Status Code	Description
Red list	HD	Historical decline in breeding population.
	BDp[1] / BDp[2]	Severe breeding population decline over 25 years / longer term.
	BDr[1] / BDr[2]	Severe breeding range decline over 25 years / longer term.
	WDp[1] / WDp[2]	Severe non-breeding population decline over 25 years / longer term.
	WDr[1]	Severe non-breeding range decline over 25 years.
	IUCN	Globally threatened – CR (critically endangered) EN (endangered) VU (vulnerable).

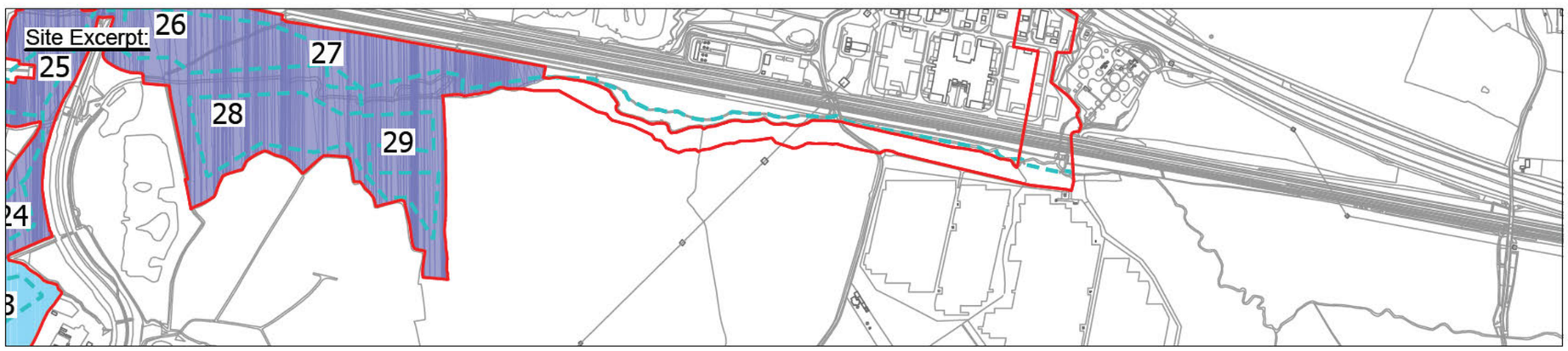
Criteria	BoCC Status Code	Description
Amber list	BDMp[1] / BDMp[2]	Moderate breeding population decline over 25 years / longer term.
	WDMp[1] / WDMp[2]	Moderate non-breeding population decline over 25 years / longer term.
	BDMr[1] / BDMr[2]	Moderate breeding range decline over 25 years / longer term.
	WDMr[1]	Moderate non-breeding range decline over 25 years.
	ERLOB	Threatened in Europe – CR (critically endangered) EN (endangered) VU (vulnerable).
	HDrec	Historical decline in breeding population in recovery.
	BR / WR	Breeding rarity / non-breeding rarity.
	BL / WL	Breeding localisation / non-breeding localisation.
	BI / WI	Breeding bird of international importance / non-breeding bird of international importance.

7. ANNEX 2: WINTER BIRD SURVEY ROUTES 2023/2024

[SEE OVERLEAF]

See Excerpt Below:

Site Excerpt:



LEGEND:

- Survey route used in 2023 / 2024
- Survey area A, encompassing field numbers: 1, 2, 3, 4, 5, 6, 7, 8, and 9
- Survey area B, encompassing field numbers: 10, 11, 12, 13, 14, 15, 16, and 17
- Survey area D, encompassing field numbers: 20, 21, and 22
- Survey area E, encompassing field numbers: 18, 19, and 23
- Survey area C & F, encompassing field numbers: 24, 25, 26, 27, 28, and 29
- Order limits
  Total area approx: 191.538 ha.

0 100 200 m

1:10000

rev.	rev. date	auth.	rev. note
P01	20/09/24	MW	Initial issue.

client. EPL 001 Limited

project. Stonestreet Green Solar

Land North And West Of Aldington

Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0162 rev. P01

drawing title. Report Figure 1

Winter Bird Survey Routes 2023/2024

suit. S4

APFP 5(2)(l)(ii)

rev date. 20/09/24

scale. 1:10000

sheet. A3

drawn. NA

checked. MW

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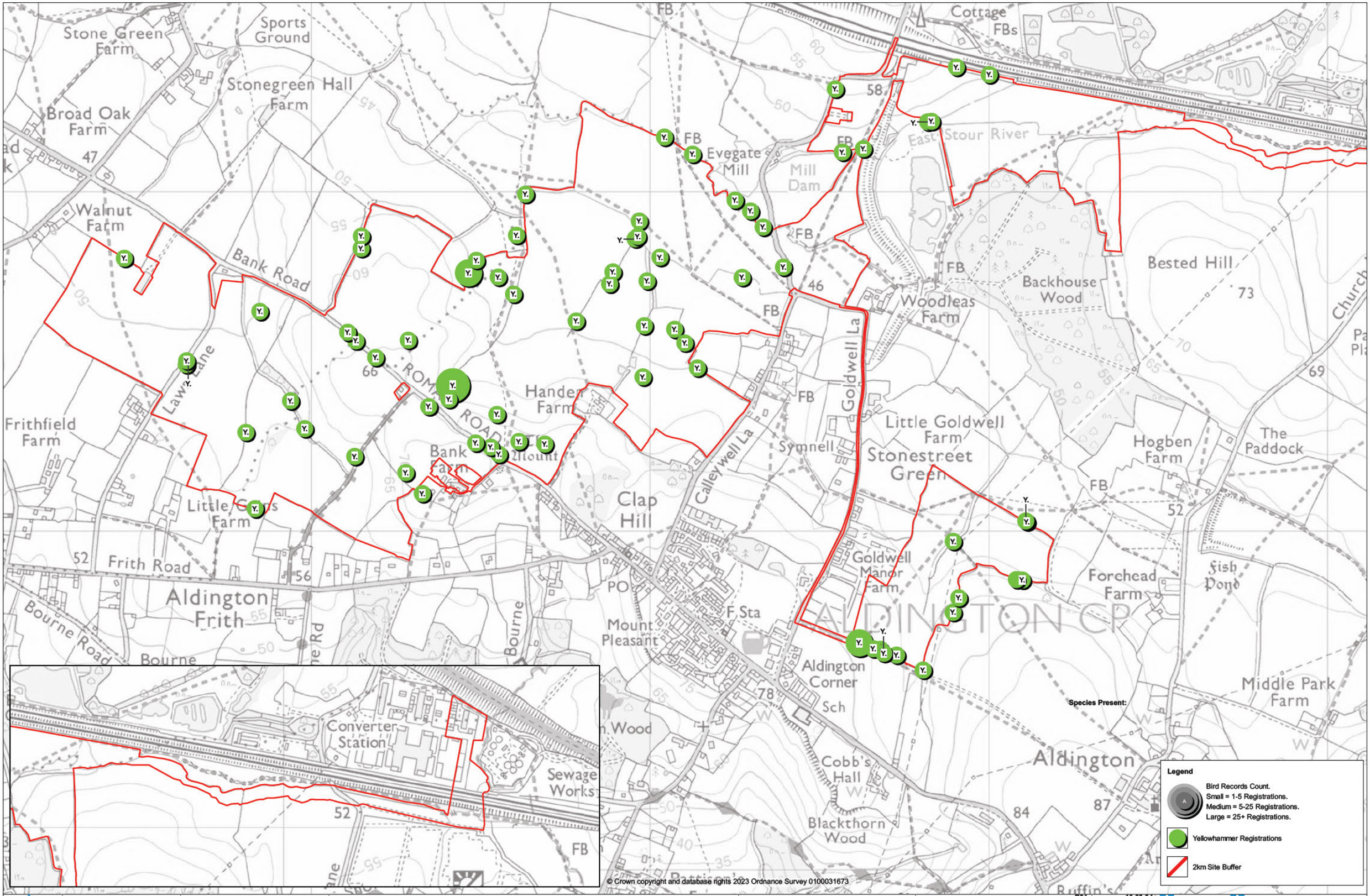
8. ANNEX 3: WINTERING BIRD SURVEY PLANS

[SEE OVERLEAF]



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rev.	rev. date	auth.	rev. note

rev.	rev. date	auth.	rev. note

client. EPL 001 Limited

project. Stonestreet Green Solar
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Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0142 rev. P01

drawing title. Wintering Bird Survey Plan
Yellowhammer Distribution

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rev date. 10.09.24
scale. 1:10000
sheet. A3
drawn. NA
checked. LS

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Species Present:

Legend

Bird Records Count.
Small = 1-5 Registrations.
Medium = 5-25 Registrations.
Large = 25+ Registrations.

Skylark Registrations

2km Site Buffer

0 100 200 m

1:10000

rev. rev. date auth. rev. note

rev. rev. date auth. rev. note

client. EPL 001 Limited

project. Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0161 rev. P01

drawing title. Wintering Bird Survey Plan
Skylark Distribution

suit. S4

rev date. 10.09.24
scale. 1:10000
sheet. A3
drawn. NA
checked. MW

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Stonestreet Green Solar

Annex 2 - Breeding Bird Survey Report (2023 Season)

BREEDING BIRD SURVEY REPORT

EPL 001 LIMITED

STONESTREET GREEN SOLAR

LAND NORTH AND WEST OF ALDINGTON, KENT

REVISION: P02

REF NO. 5535-LLB-RP-EC-0030

STATUS:

DOCUMENT ISSUED: 31/01/2025

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CONTENTS

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Checked / Approved by	[redacted] (Hons), MCIEEM

EXECUTIVE SUMMARY

S.1 A breeding bird survey was conducted within the period April to June 2023, in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project'). The survey consisted of four survey visits, focused on the local breeding bird assemblage and provides supplementary data to the that previously undertaken during 2020 and 2022.

S.2 The objective of the breeding bird survey (supplemented by desk study) was to record the species, distributions, and numbers of breeding birds within and adjacent to the Site, with emphasis on any protected and notable species, Additionally, the survey was used to estimate the breeding status of each species and the number of breeding territories likely to be present within the Site.

S.3 The survey visits were conducted by experienced bird surveyors, and the survey method was broadly based on the 'line transect' (Common Birds Census, CBC) territory mapping method.

S.4 The main findings of this breeding bird survey for the Site are:

- A total of 52 bird species were recorded within the Site, with 48 directly using the Site. Of these, 32 are notable species as follows:
- Ten are listed as a Species of Principal Importance: skylark, starling, song thrush, house sparrow, dunnock, yellow wagtail, bullfinch, linnet, yellowhammer and reed bunting.
- Ten are listed as red status species: skylark, starling, mistle thrush, nightingale, house sparrow, yellow wagtail, bullfinch, greenfinch, linnet and yellowhammer.
- 13 are listed as amber status species: greylag goose, mallard, snipe, stock dove, woodpigeon, kestrel, whitethroat, willow warbler , wren, song thrush, dunnock, bullfinch and reed bunting.
- One species using the Site, kingfisher, is listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA).

S.5 The Site is assessed as being of Local (district) importance for breeding skylark and of County importance for breeding yellowhammer. Additionally, the railway embankment adjacent to the north-east land parcels of the Site is of Local (district) importance for breeding nightingale, though this will not be impacted by the Project. The Site is assessed overall to be of Local importance for its breeding bird assemblage.

S.6 The above findings are broadly similar to the findings of the 2020 and 2022 breeding bird survey work previously undertaken across the Site to inform the Development Consent Order (DCO) application. Some minor variations in the recorded species assemblage and numbers and distribution are noted (e.g, some reduction in

distribution and territory numbers of skylark) but do not alter the results of the previous assessment.

S.7 Impacts on bird breeding and foraging habitats will be avoided and minimised by design, and new habitats for breeding and foraging birds will be created on Site, to ensure that the ecological importance of the local bird populations can be maintained and improved wherever possible. Details of avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report. Instead, these measures (which remain appropriate following evaluation of the 2023 breeding survey results) are set out in the **ES Vol 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033] and the accompanying **Outline Landscape and Ecological Management Plan (LEMP) (Doc Ref. 7.10(A))** [REP1-048]

S.8 This report contains further details of the survey methodology, results and evaluation, as such it should be read in full.

1. INTRODUCTION

INSTRUCTION

1.1 This Breeding Survey Report has been prepared on behalf of EPL 001 Limited ('the Applicant') to detail the method and results of the breeding bird survey focused on the local breeding bird assemblage in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project').

1.2 This Winter Bird Survey Report provides additional and update survey data for the 2023 breeding season, to supplement the 2021-22 breeding surveys previously completed and reported in Appendix 9.5g of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g – 9.5n (Doc Ref. 5.4)** [APP-090]

THE PROJECT

1.3 The Project comprises the construction, operation, maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

1.4 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW') and on-Site battery energy storage systems. The agreed grid connection for the Project will allow the export and import of up to 99.9 MWe of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and a cable connection under the Network Rail and High Speed 1 ('HS1') railway.

1.5 The location of the Project is shown in in Figure 1.1: Site Location Plan of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3)** [APP-043]. The Project will be located within the Order limits (the land shown on the **Works Plans (Doc Ref. 2.3(B))** [REP1-003] within which the Project can be carried out). The Order limits plan is provided as Figure 1.2: Order Limits of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3)** [APP-043]. Land within the Order limits is known as the 'Site'.

THE SITE

1.6 The Site is located approximately 6.5km to the south-east of Ashford Town Centre and approximately 13.7km to the west of Folkestone Town Centre, in the county of Kent. The Site is situated on land located to the north and west of the village of Aldington, centred at Ordnance Survey ('OS') National Grid Reference ('NGR') TR 05898 37766. The Site is approximately 192 hectares ('ha') in size.

1.7 The Site is within the administrative boundaries of Ashford Borough Council ('ABC') and Kent County Council ('KCC').

1.8 The Site comprises primarily agricultural fields delineated by hedgerows and tree belts and is predominantly in agricultural use for arable crops and grazing. There

are five unnamed ponds within the Site boundary. The East Stour River flows in an east to west direction within, and adjacent to, the northern part of the Site.

1.9 Note that field references within this report follow those shown in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)** [REP1-018]. Fields are described in relation to the Proposed Layout as follows:

- The South Western Area, Fields 1 to 9.
- The Central Area, Fields 10 to 19 and 23 to 25.
- The South Eastern Area, Fields 20 to 22.
- The Northern Area, Fields 26 to 29.
- Project Substation (location of the Project Substation, in the north western section of Field 26).
- 'Cable Route Corridor' (export of electricity from the Project at 132 kilovolt ('kV') via underground cables (the 'Grid Connection Cable') to the Sellindge Substation).
- 'Cable Route Crossing' (use of an existing cable duct under the High Speed 1 / Channel Tunnel Rail Link ('HS1') railway or through Horizontal Directional Drilling ('HDD') beneath HS1 for the Cable Route connection).
- Sellindge Substation (location of the existing Sellindge Substation).The South Western Area.

SCOPE OF WORKS

1.10 This report details the results of a breeding bird survey (territory mapping) of the Site conducted between 12th April 2023 and 6th June 2023.

1.11 For consistency with the previous (2020) breeding bird survey, the Site had been split into four survey Parcels (A-D), which encompassed the majority of the Site excluding additions to the Project in 2022 from a previous 2021 extension. Parcels E and F (surveyed in 2022, broadly analogous with the northern half of the Central Area (Fields 18, 19 and 21)) were not included as part of this update survey, as data for these areas was still as assessed as 'in date'.

1.12 Details of avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report. Instead, these measures are set out in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033] and the accompanying **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**.

ASSESSMENT OBJECTIVES

1.13 The objectives of the survey and report are to: -

- Record the species, distributions, and numbers of breeding birds within and adjacent to the Site, with emphasis on any protected and notable species (as defined in Section 4);

- Estimate the breeding status of each species and the number of breeding territories likely to be present within the Site; and
- Assess the overall ecological importance of the Site for breeding birds.

2. METHOD

DESK STUDY

2.1 A data search of all bird records within 1km of the Site was undertaken by the Kent and Medway Biological Records centre (KMBRC) on 18th August 2023.

2.2 A review of the returned records from KMBRC focused on declining farmland bird species, rare breeding birds as listed by the Rare Breeding Birds Panel (RBBP, 2024) and other relevant red listed species.

2.3 Other documents were reviewed to inform evaluation and assessment as follows:

- Published Kent Bird Reports covering a five-year period of 2017 to 2021, inclusive (KOS, 2019-2023).
- The Kent Breeding Bird Atlas 2008-13 (KOS, 2015).
- British Trust for Ornithology (BTO) Kent breeding bird survey trends for skylark and yellowhammer (BTO, undated).
- Statutory and non-statutory designated site citations within 1km of the Site.
- Local Wildlife Site (LWS) criteria (KWT, 2022).

SURVEY METHOD

FIELD SURVEY METHODOLOGY

2.4 The survey was undertaken based on a standard territory mapping (Common Birds Census, CBC) methodology for surveying breeding birds, as detailed in Bibby et al (2000) and Gilbert et a (1998).

2.5 During the survey, all species either seen or heard were recorded and any signs of breeding activity were noted. Birds were recorded using the standardised British Trust for Ornithology (BTO) two-letter species codes and standardised behaviour codes (Bibby *et al*., 2000).

2.6 All bird species seen during the survey were recorded and signs of activity and behaviour were noted. However, most survey effort was focussed on declining farmland species that are listed as Species of Principal Importance (SPI), red and amber status species (Stanbury *et al.*, 2021) and/or are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

2.7 Consequently, birds flying overhead (and not using the Site) and/or some common and widespread species may have been missed on specific survey visits. Records of feral pigeon (*Columba livia*) were not made.

2.8 The Site was surveyed on foot so that the surveyor passed within 50 metres of most points within the Site. Where fields are particularly large, the distance between the surveyor and points on Site is likely to have exceeded 50m. See Annex 2 for the survey route.

2.9 The start of the bird counts was within 30 minutes after sunrise (in accordance with Bird Survey Guidelines (Bird Survey & Assessment Steering Group (2023)). Note a total of four survey visits was undertaken, based on the extensive existing data available for the Site.

2.10 Clusters of bird registrations indicate the presence of a territory. A minimum of two registrations recorded ten days apart is required to determine a cluster. A single nest recorded with eggs or young can qualify as a cluster even if no adults are observed. The extent of a territory is estimated based on the number of registrations and the specific behaviours recorded (Bibby *et al.*, 2000).

2.11 For late-arriving (to the UK) trans-Saharan migrants, e.g., spotted flycatcher (*Muscicapa striata*), for which fewer potential contacts are possible, only one registration is required to form a territory cluster. A number of species are not territorial and are dealt with appropriately, e.g., linnet (*Linaria cannabina*), where survey data represents aggregations or loose colonies.

2.12 Species maps, indicating the estimate of territories present on-Site for the most significant species of conservation concern recorded, are provided in Annex 3 of this report. These maps are used to determine key habitats and assess potential impacts of the Project upon the bird species present on Site.

2.13 Breeding evidence was assigned to four categories: confirmed, probable, possible and non-breeding, using the standard BTO criteria (BTO undated), presented in the table 1 below. In some circumstances, the field evidence was unclear and professional judgement has been used, in combination with the field evidence, to assign breeding status.

Table 1 Evidence used to assign breeding status.

Non-Breeder	Possible Breeder	Probable Breeder	Confirmed Breeder
Migrant	Observed in suitable habitat	Pair in suitable habitat	Distraction behaviour
Summering	Singing male	Permanent territory	Used nest or eggshells found from this season
		Courtship and display	Recently fledged young or downy young
		Visiting probable nest site	Adults entering or leaving nest site, indicating occupied nest
		Agitated behaviour	Adults carrying faecal sac or food for young

Non-Breeder	Possible Breeder	Probable Breeder	Confirmed Breeder
		Brood patch on incubating bird	Nest containing eggs
		Nest building or excavating	Nest with young seen or heard

2.14 For the purposes of the breeding bird survey, the Site has been split into survey areas (refer to the table 2 below), comprising of field numbers as shown in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2) [**REP-018].

Table 2 Breeding bird survey areas and fields (refer to Fig 1 for the field locations).

Survey area	Fields
A	1, 2, 3, 4, 5, 6, 7, 8, 9 South Western Area
B	10, 11, 12, 13, 14, 15, 16, 17 Southern half of the Central Area
C	24, 25, 26, 27, 28, 29 The Northern Area and northern half of the Central Area
D	20, 21, 22 The South Eastern Area

SURVEY DATES, PERSONNEL AND WEATHER CONDITIONS

2.15 Four breeding bird survey visits (six surveyor dates) to areas A, B, C and D were conducted between 12th April 2023 and 6th June 2023.

2.16 The breeding bird surveys were carried out by suitability experienced and qualified surveyors. Surveyors had been six and over 15 years of ornithological survey experience relating to development projects.

2.17 Details of the associated weather conditions for each survey visit are provided in the table 3 below. Bird survey visits generally commenced just after sunrise to be completed by mid-morning, though generally much earlier.

2.18 Survey visits were not conducted during periods of prolonged heavy rain, strong wind (above Beaufort 4) or fog.

Table 3 Details of the associated weather conditions for each survey visit.

Date	Area	Weather
12/04/2023	A B	Sunrise: 06:13 Start: 06:40. Dry, good visibility, 20% cloud cover, light wind. End: 09:25. Dry, 100% cloud cover, good visibility, light wind.
13/04/2023	C D	Sunrise: 06:11 Start: 06:40. Dry, good visibility, 20% cloud cover, light wind. End: 09:10. Dry, 20% cloud cover, good visibility, moderate wind.
10/05/2023	A B	Sunrise: 05:18 Start: 05:40. Dry, good visibility, 100% cloud cover, light wind. End: 08:40. Dry, 50% cloud cover, good visibility, light wind.
13/05/2023	C D	Sunrise: 05:11 Start: 05:25. Dry, good visibility, 100% cloud cover, moderate wind. End: 07:45. Dry, 80% cloud cover, good visibility, moderate wind.
25/05/2023	A B C D	Sunrise: 04:57 Start: 05:25. Dry, good visibility, 0% cloud cover, light wind. End: 08:20. Dry, 80% cloud cover, good visibility, light wind.
06/06/2023	A B C D	Sunrise: 04:44 Start: 05:10. Dry, good visibility, 20% cloud cover, light wind. End: 08:20. Dry, 20% cloud cover, good visibility, moderate wind.

ASSESSMENT AND EVALUATION

ASSESSMENT CRITERIA

2.19 An assessment of the ornithological importance of the Survey Area is made by evaluating (in terms of abundance, distribution, frequency or assemblage diversity) species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest within legislation, policy and guidance (as detailed within Annex 1). The assessment and evaluation of importance of the Site is primarily focused on the bird species listed below.

- species listed on Annex 1 of the EU Birds Directive or a qualifying feature of potentially functionally linked internationally designated sites;
- species listed on Schedule 1 of the WCA, 1981 (as amended);
- priority bird species in the UK;
- species listed as priority species or additional species of interest within Kent; and
- species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists (Stanbury *et al*. 2020).

2.20 Additionally, assemblages have been assessed against the criteria for Local Wildlife Site designation within the Kent Local Wildlife Site Selection Criteria (Kent Wildlife Trust, 2022) and assemblage indicator species such as birds listed on the UK Farm Bird Indicator (Defra, 2023).

2.21 A comparison between population sizes present within the Site with the national and county breeding population estimates for certain species was also taken into account. National estimates for breeding birds are published in the paper *'Population estimates of birds in Great Britain and the United Kingdom'* (Woodward et al., 2020). The BTO Bird Atlas 2007-2011 (Balmer et. al., 2013) was also reviewed for species information on a national level and to inform the above assessment criteria.

2.22 Information on the population status of breeding bird species at a county level was sourced from the latest available issues of the Kent Bird Reports (Kent Ornithological Society, 2015-2019)

2.23 Information on populations of nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) (Hollings M. and the Rare Breeding Birds Panel, 2024).

IMPORTANCE OF BIRD POPULATIONS (VALUATION)

2.24 To inform assessment of the importance of the bird populations, their biodiversity importance has been defined with reference to geographical levels, based on guidance provided in the Chartered Institute of Ecology and Environmental Management (CIEEM)'s *'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland'* (CIEEM, 2018) as well as professional judgement.

2.25 These assessment criteria (set out in the table 4 below) have been used in conjunction an assessment of species status, abundance and diversity to assess the biodiversity importance of the bird populations recorded during the surveys.

Table 4 Biodiversity Valuation of Ornithological Features

Biodiversity Valuation	Description and examples of criteria
International or European	Resident or regularly occurring populations of species which may be considered of importance at an international or European level (1) where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part (2) of a wider population at this scale; or • the species is at a critical phase (3) of its life cycle at this scale.
UK or National	Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework i.e., UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity. Resident or regularly occurring populations of species which may be considered of value at a UK or a national level (4) where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.
Regional	Populations of species of value at a regional level (i.e., South-east England). Resident or regularly occurring populations of species which may be considered of value at a regional level (5) where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.

Biodiversity Valuation	Description and examples of criteria
County	Populations of species of value at a County (i.e. Kent) level Resident or regularly occurring populations of species which may be considered of value at a County (or District) (6) level where: • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale
Local	Species populations of value in a local (i.e., within ~ 2 km of the site) or District (e.g. Ashford). context. Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Negligible (Site)	Habitats and associated species that is of value in the context of the Site only. Populations of common and widespread species.

Biodiversity Valuation	Description and examples of criteria
1 Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (i.e. EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended) or animal or plant species listed within Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (i.e. Habitats Directive). 2 Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, e.g., critical emigration and, or immigration links between otherwise discrete populations. 3 Seasonal activity or behaviour upon which survival or reproduction depends. 4 Species which may be considered at the UK or national level mean: birds, other animals and plants which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (i.e. UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book. 5 Such species include those listed in the appropriate Natural Character Area description. 6 Such species include those at county level (i.e. Kent) including unitary authority area i.e. District level (i.e. South-east England); as listed on the LBAPs; and listed as a county designated site. *As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.	

2.26 Only ecological features within the Site and/or ZoI assessed as being of importance at a local level or above have been taken forward for future assessment within the ES. Those assessed as being at below a local level of importance, for example at the ZoI level, have been scoped out of the assessment process.

2.27 A summary of the potential impacts of the Project upon important bird species, have been assessed based on the location of birds within the Site and/or foraging areas combined with those areas most likely to be impacted by the Project. These impacts are discussed further within ES Biodiversity Chapter.

ZONE OF INFLUENCE

2.28 The ZoI of a proposed development is defined by the Ecological Impact Assessment Guidelines (EcIA) as "*…the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities*" (CIEEM, 2018).

2.29 The ZoI is determined by the source / type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the boundary.

2.30 The potential impact(s) of a development are not always limited to the boundaries of the site concerned. A development may also have the potential to result in impacts upon ecologically important sites, habitats or species that are located beyond the site boundaries.

2.31 The potential ZoI of a project in relation to breeding birds is used to determine the extents of the breeding bird survey study area.

2.32 A review of the development proposals confirmed that they will likely result in loss of suitable on-Site bird breeding and foraging habitat, including habitat loss of limited amounts of field margin, hedgerow and other boundary habitats and extensive loss of open arable habitats that are suitable for ground-nesting bird species that require open farmland habitats for nesting. Works may also result in impacts on individual animals (e.g., destruction of active nests during site works).

2.33 Furthermore, the ZoI is likely to be influenced by design effects of the development proposals including lighting and noise during both the construction and operational phases.

2.34 Additionally, the ZoI is also likely to be influenced by management of any remaining habitats with the Site and effects on adjacent land parcels.

2.35 These potential impacts could adversely affect the ecological importance of the local and wider breeding bird populations, including for species such as skylark (*Alauda arvensis*) and yellowhammer (*Emberiza citrinella*), whose territories may cover the Site as well as adjacent off-Site areas.

2.36 Therefore, in the absence of appropriate avoidance, mitigation and compensation measures, the potential ZoI of the approved development, in relation to breeding birds, is likely to extend to the Site and those habitats that fall within c.100-200m beyond this, based on a review of a combination of disturbance assessment studies including Cutts, N et al. (2013), Fernandez-Juricic, E et al (2001) and McClure, C (2013).

2.37 This ZoI was used to establish the required extents of the breeding bird survey, which included all suitable on-Site habitat, and relevant adjacent off-Site habitats (boundary scrub, treelines and hedgerows), also noting any obvious territorial behaviour that encompassed both the Site and adjacent off-Site fields.

SURVEY LIMITATIONS

2.38 An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The ecological character of a site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.

2.39 The aim of a desk study is to help characterise the baseline context of the site and provide valuable background information that would not be captured by a single site survey alone. Information obtained during a desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Project.

2.40 The survey was conducted on foot so that the surveyor passed within 50 metres of most points within the Site compartments and off-Site areas. In some circumstances, i.e. when fields are particularly large, the distance between the surveyor and some areas is likely to have exceeded 50m. However, because the surveyors passed within 50m of most points on-Site and used binoculars, any residual limitations to bird detectability are not regarded as a significant limitation to the survey.

2.41 Surveys were not conducted at night, shortly prior to sunrise or at dusk. Therefore, species that are most active during this period, such as owl species, were unlikely to be recorded. A separate survey for barn owl (*Tyto alba*) was conducted, details of this survey can be read in the associated Appendix 9.5n of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref.5.4)** [APP-090].

2.42 To control for time-of-day effects, the transect route was altered on each of the survey visits.

2.43 Bird survey visits were conducted within the optimum period for detecting breeding birds and overall there are no material limitations to the survey results.

3. SURVEY RESULTS

DESK STUDY

BIOLOGICAL RECORDS

3.1 Of those relevant potential rare breeding species, the review of the returned records from KMBRC indicate that the following species occurred within the search area over the last 10 years (dates are of the most recent summer record): cattle egret (*Bubulcus ibis*) on 14/04/2019, little egret on 01/06/2019, pochard (*Aythya ferina*) on 01/04/2013, turtle dove (*Streptopelia turtur*) on 17/05/2018, quail (*Coturnix coturnix*) on 20/06/2012 and lesser-spotted woodpecker (*Dendrocopos minor*) on 06/03/2017.

3.2 The review of the returned records indicate that the following additional farmland bird species occurred within the data search area over the last 10 years: corn bunting (*Emberiza calandra*) on 18/06/2015.

3.3 Other relevant records of red listed species are: spotted flycatcher (*Muscicapa striata*) on 06/07/2017 and marsh tit (*Poecile palustris*) on 11/04/2016.

3.4 Within the returned records turtle dove, spotted flycatcher, marsh tit and corn bunting were confirmed as a breeding species however, the year of confirmed breeding is not listed.

3.5 Results returned from KMBRC of statutory and non-statutory designated sites indicate that there are no statutory sites within data search area and five Local Wildlife Sites providing woodland and pasture habitats. Given the required bird criteria (KWT, 2022), it is unlikely that these LWS have been designated for their breeding bird assemblages.

DESIGNATED SITES CONTEXT

3.6 A number of international designations of breeding and passage ornithological interest are present within 10km of the Site, as follows:

- Dungeness Romney Marsh and Rye Bay Ramsar and SPA is located approximately 6.5km to the south-west of the Site, at its closest point;

3.7 The relevant breeding and passage ornithological qualifying features and interest for these internationally designated sites is summarised below.

Dungeness Romney Marsh and Rye Bay Ramsar

3.8 The Site qualifies under Criterion 5 because it regularly supports

- *'20,000 or more waterbirds: • In the non-breeding season, the site regularly supports 34,957 individual waterbirds (5 year peak mean 2002/3 – 2006/7). '*

3.9 The Site qualifies under Criterion 6 because it regularly supports over 1% of the individuals in the populations of the following species or subspecies of waterbird in any season:

Dungeness Romney Marsh and Rye Bay SPA

3.10 The Site qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

- '*Qualifying features with revised counts*
- *Common tern Sterna hirundo 188 pairs - breeding (5 year mean 2011-2015) 1.9 % of GB population Annex 1*
- *Sandwich tern Sterna albifrons 420 pairs - breeding (5 year mean 2011-2015) 3.8 % of GB population Annex 1*
- *Qualifying features with counts remaining as at 2016 classification using data in Departmental Brief published in 2010*
- *Avocet Recurvirostra avosetta 31 pairs – breeding (5 year mean 2004-2008) 3.5% of GB population Annex 1*
- *Little tern Sternula albifrons 35 pairs – breeding (5 year mean 1992-1996) 1.5% of GB population Annex 1*
- *Aquatic warbler Acrocephalus paludicola 2 individuals – passage (5 year mean 2004-2008) 6.1% of GB population Annex 1*
- *Marsh harrier Circus aeruginosus 4 females – breeding (5 year mean 2004-2008) 2% of GB population Annex 1*
- *Mediterranean Gull Larus melanocephalus 56 pairs – breeding (2004- 2008) 52.2% of GB population Annex 1'*

3.11 The Site also qualifies under article 4.2 of the Directive (2009/147/EC) due to:

' as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season: During the period 2002/03 – 2006/07, Dungeness, Romney Marsh and Rye Bay SPA (including proposed extensions) supported an average peak of 34,625 individual waterbirds in the non-breeding season, comprised of almost 16,000 wildfowl and over 19,000 waders'

3.12 Due to the international importance of these sites, the presence of any qualifying species is addressed within the evaluation.

3.13 A review of other statutory and non-designated sites within 2km found that other designated sites were designated primarily for their habitats without detailed ornithological criteria. As a result, where species assemblages may be relevant to connected designated site habitats, these are reviewed but focus is made upon the internationally designated sites listed above.

FIELD SURVEY

OVERALL RESULTS (ALL SURVEY AREAS COMBINED)

3.14 52 species were recorded across all the survey areas of the Site during the survey visits.

3.15 Of these, the following were seen flying over of the Site and making no direct use of it: herring gull (*Larus argentatus*), cormorant (*Phalacrocorax carbo*), crossbill (*Loxia curvirostra)* and greenfinch (*Chloris chloris*). Therefore, 48 species were recorded directly using the Site.

3.16 Of the 48 species that use the Site:

- Ten are listed as a Species of Principal Importance: skylark, starling, song thrush, house sparrow, dunnock, yellow wagtail, bullfinch, linnet, yellowhammer, reed bunting.
- One species using the Site: kingfisher (*Alcedo atthis*) is listed under Schedule 1 of the WCA (as amended).
- Eight are BoCC red status species: skylark, starling (*Sturnus vulgaris*), mistle thrush (*Turdus viscivorus*), nightingale, house sparrow (*Passer domesticus*), yellow wagtail (*Motacilla flava*), linnet (*Linaria cannabina*) and yellowhammer.
- 12 are BoCC amber status species: greylag goose (*Anser anser*), mallard (*Anas platyrhynchos*), stock dove (*Columba oenas*), woodpigeon (*Columba palumbus*), kestrel (*Falco tinnunculus*), whitethroat (*Curraca communis*), snipe (*Gallinago gallinago*), wren (*Troglodytes troglodytes*), song thrush (*Turdus philomelos*), dunnock (*Prunella modularis*), willow warbler (*Phylloscopus trochilus*), bullfinch (*Pyrrhula pyrrhula*) and reed bunting (*Emberiza schoeniclus*).

3.17 Of the 48 species that directly use the Site, one species was recorded as 'confirmed breeder', 20 were 'probable breeders', and 24 were 'possible breeders' and three were 'non-breeders'.

3.18 Based on the survey results, estimates of the number of territories across the Site for skylark are 20 for linnet four to five and for yellowhammer 25.

3.19 Table 5 presents the results by survey area and is followed by sections providing a species breakdown by survey area.

Table 5 Results of Breeding Bird Results by Survey Area

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Red-legged partridge *Alectoris rufa*	RL	No status	NR	A pair observed in arable fields on 12/04/23.	NR	NR	Pair recorded in Area B only
Pheasant *Phasianus colchicus*	PH	No status	NR	Possible breeder, adult in suitable habitat. Single recorded on 10/05/2023.	NR	Possible breeder, adult in suitable habitat. Three recorded on 06/06/2023.	Likely present throughout Site
Greylag goose *Anser anser*	GJ	Amber : WL, WI	NR	NR	Area C Non-breeder. 27 in Field 28 on 25/06/2023.	NR	Peak count of 27 in Area C
Mallard *Anas platyrhynchos*	MA	Amber : WDMp 1/2	Possible breeder on Site. Single recorded on 12/04/2023.	NR	NR	NR	Single recorded in Area A only
Stock dove	SD	Amber : BI	NR	Possible breeder, adults in suitable habitat. Four recorded foraging in Field 17 on 10/05/2023.	Probable breeder. Recorded carrying nest material on 13/04/23. Suitable habitat in woodland adjacent Fields 28/29.	Possible breeder, adults in suitable habitat. Four recorded foraging in Field 22 on 25/05/2023.	At least one territory present
Woodpigeon *Columba palumbus*	WP	Amber : BI	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Likely that territories are present throughout the Site

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Collared dove *Streptopelia decaocto*	CD	Green	Probable breeder, adult in suitable habitat recorded singing on two occasions, 25/05/2023 and 06/06/2023.	Possible breeder, adults in suitable habitat. Single recorded on 13/04/2023.	NR	NR	At least one territory present
Snipe*Gallinago gallinago*	SN	Amber: ERLOB, WDMp1, BDMr2	Non-breeder. Single recorded on 12/04/2023.	NR	NR	NR	Single recorded in Area A only
Herring gull	HG	Section 41 species. Red: BDp2, WDp1, BI, WI	Non-breeder. Recorded flying over the Site only. Peak flock of 14 recorded on 10/05/2023.	Non-breeder. Flying over the survey area on most visits	Non-breeder. Flying over the area on most survey visits	Non-breeder Recorded flying over on most survey visits.	Flyover only
Cormorant *Phalacrocorax carbo*	CA	Green	NR	NR	Non-breeder. Recorded flying over the Site only 13/04/2023 and 13/05/2023.	NR	Flyover only
Grey heron *Ardea cinerea*	H.	Green	Non-breeder. Single on 10/05/2023.	NR	Non-breeder on-Site. However, heronry comprising a minimum of three nests located within Backhouse Wood adjacent to Field 28.	NR	Breeding off-Site in woodland block adjacent Area C

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Little egret *Egretta garzetta*	ET	Green	NR	NR	Non-breeder. Singles in ditches and adjacent the river Stour on 13/04/2023.	NR	Singles recorded in area C only
Buzzard *Buteo buteo*	BZ	Green	Possible breeder, adult in suitable habitat. Single recorded on 25/05/2023	Possible breeder, adult in suitable habitat. Singles recorded on 12/04/2023 and 06/06/2023	Possible breeder, adults in suitable habitat. Single recorded on 25/05/2023	Possible breeder, adult in suitable habitat. Single recorded on 06/06/2023	Likely present throughout the Site and breeding off-Site
Kingfisher	KF	WCA Sch1. Green	NR	NR	Possible breeder, adult in suitable habitat.	NR	Likely breeder within Area C
Great spotted woodpecker *Dendrocopos major*	GS	Green	NR	Possible breeder, adult in suitable habitat. Single recorded on 12/04/2023.	NR	NR	Single recorded in area A only
Green woodpecker *Picus viridis*	G.	Green	Possible breeder, adult in suitable habitat. Single recorded calling within 250m from the Site boundary on 12/04/2023	NR	NR	Possible breeder, adult in suitable habitat. Single recorded calling within 250m from the Site boundary on 25/05/2023.	Recorded in Area A and D as single individuals.
Kestrel	K.	Amber : BDMp 1/2	Possible breeder, adult in suitable habitat. Single recorded on 25/05/2023.	NR	Possible breeder, adult in suitable habitat. Single recorded on 13/05/2023	NR	Recorded in Area A and C as single individuals.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Jay *Garrulus glandarius*	J.	Green	Possible breeder, adult in suitable habitat. Single recorded on 12/04/2023	NR	NR	Possible breeder, adult in suitable habitat. Singles recorded on 13/04/2023 and 25/05/2023	Recorded in Area A and D as single individuals.
Magpie *Pica pica*	MG	Green	Possible breeder, adults in suitable habitat Individuals recorded on 12/04/2023, 10/05/2023 and 06/06/2023	Possible breeder, adults in suitable habitat Individuals recorded on 12/04/2023, 10/05/2023 and 06/06/2023	Possible breeder, adults in suitable habitat Individuals recorded on 13/04/2023 and 06/06/2023	Possible breeder, adults in suitable habitat Individuals recorded on 13/04/2023, 13/05/2023 and 06/06/2023	Recorded throughout Site
Jackdaw *Corvus monedula*	JD	Green	Possible breeder, adults in suitable habitat Individuals recorded on 12/04/2023 and 25/05/2023	Possible breeder, adults in suitable habitat Flock of 9 recorded on 10/05/2023	Possible breeder, adult in suitable habitat 13/05/2023	NR	Recorded in Areas A, B and C
Carrion crow *Corvus corone*	C.	Green	Possible breeder, adult in suitable habitat. Flock of 13 recorded foraging on 12/04/2023, individuals recorded on 10/05/2023. 13/05/2023 and 06/06/2023, and flock of 40 recorded on 25/05/2023	Possible breeder, adult in suitable habitat Flock of 6 recorded on 12/04/2023 and individuals recorded on 10/05/2023, 13/15/2023, 25/05/2023 and 06/06/2023	Possible breeder, adult in suitable habitat Individuals recorded on13/04/2023 and 13/05/2023 and 25/05/2023 and 06/06/2023	Possible breeder, adult in suitable habitat Single recorded on 13/05/2023	Recorded throughout Site for foraging
Blue tit *Cyanistes caeruleus*	BT	Green	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Recorded throughout the Site

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Great tit *Parus major*	GT	Green	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Probable breeder, adults in suitable habitat on all survey visits.	Recorded throughout the Site
Long-tailed tit *Aegithalos caudatus*	LT	Green	Possible breeder, adult in suitable habitat recorded on a single survey visit 12/04/2023	NR	NR	NR	Recorded in Area A only.
Skylark	S.	Section 41 species. Red: BDp2	Probable breeder, adults within suitable habitat. Area A holds 8 permanent territories. Additional territories are present immediately off-Site Bird registrations: 28 on 12/04/2023, 16 on 10/05/2023, 15 on 25/05/2023 and 6 on 06/06/2023.	Probable breeder, adults in suitable habitat. Area B holds 12 permanent territories. Additional territories are present immediately off-Site. Bird registrations: 21 on 12/04/2023, 32 on 10/05/2023, 20 on 25/05/2023 and 19 on 06/06/2023.	Possible breeder, individuals recorded in suitable habitat on 06/06/2023. Territories are likely present in the adjacent off-Site fields to the east and west.	Possible breeder, single adult recorded in suitable habitat on 06/06/2023. Territory present in the adjacent off-Site field to the east.	Distributed throughout Site with an average recording of 39 individual registration across Area A and Area B per survey. 20 permanent territories across Area A and B.
Swallow	SL	Green	Non-breeder. Eight foraging across Area A on 06/06/2023.	NR	Non-breeder. Four foraging on 13/04/2023.	Non-breeder. 21 foraging across Area D on 25/05/2023.	Non-breeding, foraging over Site
Willow Warbler	WW	Amber: BDMp2	Possible breeder. Single recorded singing in suitable habitat on 10/05/2023.	NR	NR	NR	Recorded in Area A only.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Chiffchaff *Phylloscopus collybita*	CC	Green	Probable breeder, adults in suitable habitat and permanent territory. Singles on all survey visit dates. 3 to 4 territories across Area A.	Possible breeder, adults in suitable habitat. Singles on 10/05/2023	Probable breeder, adults in suitable habitat and permanent territory. Singles on all survey visit dates. 4 territories across Area C.	Possible breeder, adults in suitable habitat. Single on 06/06/2023.	Recorded throughout Site with at least seven territories across the Site.
Blackcap *Sylvia atricapilla*	BC	Green	Probable breeder, adults in suitable habitat and permanent territory. Singles on all survey visit dates. 4 to 5 territories across Area A.	Probable breeder, adults in suitable habitat and permanent territory. Singles on all survey visit dates. 3 to 5 territories across Area B.	Probable breeder, adults in suitable habitat and permanent territory. Singles on all survey visit dates. 3 to 4 territories across Area B.	Possible breeder, adults in suitable habitat. Singles on 13/05/2023 and 06/06/2023.	Commonly recorded through all areas of the Site and multiple territories in most parcels
Lesser whitethroat	LW	Green	Possible breeder. Singles recorded singing in suitable habitat on 10/05/2023 and 06/06/2023.	Possible breeder. Singles recorded singing in suitable habitat on 10/05/2023.	NR	NR	Recorded in Area A and B as single individuals.
Whitethroat	WH	Amber : BDMp 2	Probable breeder, adults in suitable habitat. 4 to 6 territories across Area A. Bird registrations: 4 on 10/05/2023 6 on 25/05/2023 6 on 06/06/2023	Probable breeder, adults in suitable habitat. 4 to 5 territories across Area B. Bird registrations: 5 on 10/05/2023 2 on 25/05/2023 6 on 06/06/2023	Probable breeder, adults in suitable habitat. 3 territories across Area C. Bird registrations: 4 on 13/05/2023 2 on 25/05/2023	Possible breeder, adults in suitable habitat. Singles on 13/05/2023 and 06/06/2023.	Recorded throughout the Site with multiple territories recorded throughout

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Goldcrest *Regulus regulus*	GC	Green	Possible breeder, adult in suitable habitat. Single recorded on 12/04/2023 and 25/05/2023	Possible breeder, adults in suitable habitat. Two recorded on 10/05/2023	NR	NR	Recorded in Area A and B.
Wren	WR	Amber : BI	Probable breeder, adults in suitable habitat. 7 to 8 territories across Area A. Bird registrations: 9 on 12/04/2023 12 on 10/05/2023 9 on 25/05/2023 6 on 06/06/2023	Probable breeder, adults in suitable habitat. 4 to 5 territories across Area A. Bird registrations: 2 on 12/04/2023 8 on 10/05/2023 5 on 25/05/2023 9 on 06/06/2023	Probable breeder, adults in suitable habitat. 4 to 6 territories across Area A. Bird registrations: 5 on 13/04/2023 7 on 13/05/2023 7 on 25/05/2023 11 on 06/06/2023	Probable breeder, adults in suitable habitat. 6 to 7 territories across Area A. Bird registrations: 6 on 13/04/2023 6 on 13/05/2023 5 on 25/05/2023 7 on 06/06/2023	Distributed throughout Site, recorded on all survey visits with multiple territories at least 21 territories across the Site.
Nuthatch *Sitta europaea*	NH	Green	NR	Possible breeder, adult in suitable habitat. Two singing on 10/05/2023.	NR	NR	Recorded in Area B on one occasion.
Starling	SG	Section 41 species. Red: BDp1/2	Possible breeder, adults in suitable habitat with 4 on 10/05/2023 and 17 on 25/05/2023.	Non-breeder however, likely use of the area for foraging. 1 on 06/06/2023 .	NR	NR	Recorded foraging in Area A and B only.
Blackbird *Turdus merula*	B.	Green	Probable breeder, adults in suitable habitat. Recorded on most survey visits.	Probable breeder, adults in suitable habitat. Recorded on most survey visits.	Probable breeder, adults in suitable habitat. Recorded on most survey visits.	Probable breeder, adults in suitable habitat. Recorded on most survey visits.	Distributed throughout Site as a probable breeder with multiple territories across the Site.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Song thrush	ST	Section 41 species. Amber: BDMp 2	Possible breeder, adults in suitable habitat. 1 permanent territory Bird registrations: 2 on 12/04/2023 1 on 10/05/2023 1 on 25/05/2023	Probable breeder, adults in suitable habitat. 2 permanent territories. Bird registrations: 4 on 12/04/2023 2 on 10/05/2023 1 on 25/05/2023 2 on 06/06/2023	Probable breeder, suitable habitat. 2 permanent territories. Bird registrations: 2 on 13/04/2023 1 on 13/05/2023 1 on 25/05/2023 5 on 06/06/2023	Possible breeder, adults in suitable habitat. 1 permanent territory Bird registrations: 2 on 13/05/2023 2 on 25/05/2023 1 on 06/06/2023	Distributed throughout Site as a probable or possible breeder. Six territories present across the Site.
Mistle thrush	M.	Red: BDp2, BDMp 1	Possible breeder, adult in suitable habitat on 10/05/2023	Possible breeder, adult in suitable habitat on 06/06/2023	NR	NR	Recorded in Area A and B on a single occasion.
Robin *Erithacus rubecula*	R.	Green	Probable breeder, adults in suitable habitat and permanent territories. Recorded on every survey visit across the area.	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Probable breeder, adults in suitable habitat and permanent territories. Recorded on most survey visits.	Probable breeder, adults in suitable habitat and permanent territories. Recorded on most survey visits.	Distributed throughout Site as a probable breeder with multiple territories across the Site.
Nightingale	N.	Red: BDMp 1/2, BDMr 2	NR	NR	Probable breeder, recorded in suitable habitat adjacent the railway embankments with at least a single permanent territory. Recorded on most survey visits.	NR	Recorded in Area C in association with railway embankment only.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
House Sparrow	HS	Section 41 species. Red: BDp2	Possible breeder, adults in suitable habitat. Max flock of 30 recorded on 06/06/2023 within agricultural buildings adjacent the Site. Recorded on most visits in boundary habitats and associated with adjacent housing and within the agricultural buildings at Bank Farm.	Non-breeder, although probable breeder in adjacent housing. Using the area for foraging with low numbers observed on most visits.	NR	Non-breeder, although probable breeder in adjacent housing. Using the area for foraging with low numbers observed on most visits	Recorded within Area A, B and D in association with adjacent farm and house buildings as a possible breeder however likely breeding off-Site
Dunnock	D.	Section41 species. Amber: BDMp2	Possible breeder, adults in suitable habitat. 1 permanent territory Bird registrations: 3 on 12/04/2023 5 on 10/05/2023 1 on 25/05/2023 1 on 06/06/2023	Probable breeder, adults in suitable habitat. 4 permanent territories Bird registrations: 4 on 12/04/2023 1 on 10/05/2023 3 on 25/05/2023 2 on 06/06/2023	Probable breeder, adults in suitable habitat. 2 permanent territories Bird registrations: 4 on 13/04/2023 4 on 13/05/2023 3 on 25/05/2023 1 on 06/06/2023	Probable breeder, adults in suitable habitat. 3 permanent territories Bird registrations: 5 on 13/04/2023 2 on 13/05/2023 4 on 25/05/2023 2 on 06/06/2023	Recorded throughout Site as a probable or possible breeder with approximately 10 territories across the Site
Yellow wagtail	YW	Section 41 species. Red: BDp2, BDMp1, BDMr1/2	NR	Possible breeder, adult in suitable habitat. Single recorded on 06/06/2023	NR	NR	Recorded in Area B only.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Pied Wagtail *Motacilla alba*	PW	Green	Possible breeder, adult in suitable habitat associated with adjacent housing and within the agricultural buildings at Bank Farm. 1 territory likely in off-Site.	NR	NR	NR	Recorded in Area A only.
Chaffinch *Fringilla coelebs*	CH	Green	Probable breeder, adults in suitable habitat and permanent territories. Recorded on every survey visit across the area.	Possible breeder, adults in suitable habitat. Recorded on every survey visit across the area.	Probable breeder, adults in suitable habitat and permanent territories. Recorded on every survey visit across the area..	Probable breeder, adults in suitable habitat and permanent territories. Recorded on every survey visit across the area.	Distributed throughout Site as a probable breeder with multiple territories across the Site.
Bullfinch	BF	Section 41 species. Amber: BDMp2	NR	Possible breeder, adult in suitable habitat. Singles on 13/04/2023	NR	NR	Recorded in Area B only, peak count of two as a possible breeder.
Greenfinch	GR	Red: BDp1/2	Single bird flying over the Site only on 13/04/2023.	NR	NR	NR	Recorded flying over the Site only.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Linnet	LI	Section 41 species. Red: BDp2	Possible breeder, adults in suitable habitat. 1 permanent territory. Bird registrations: 1 on 12/04/2023 2 on 10/05/2023 3 on 25/05/2023 5 on 06/06/2023	Possible breeder, adults in suitable habitat. No confirmed territories Bird registrations: 19 on 10/05/2023 with Max flock of 16, birds recorded singing and foraging. 4 on 25/05/2023	Possible breeder, adults in suitable habitat. 1 permanent territory Bird registrations: 4 on 13/04/2023 1 on 13/05/2023 1 on 25/05/2023 3 on 06/06/2023	Probable breeder, adults in suitable habitat. 2 to 3 permanent territories 29 on 13/04/2023 with max flock of 25, birds recorded foraging, singing and aggressive behaviour display. 6 on 13/05/2023 4 on 25/05/2023 5 on 06/06/2023	Recorded throughout Site as a probable or possible breeder. Max flock of 25. 4 to 5 territories recorded across the Site though noting this is a colonial nesting species and this represents a broad estimate.
Crossbill *Loxia curvirostra*	CR	Green	NR	NR	NR	Non-breeder. Recorded flying over the Area only on 25/05/2023.	Recorded flying over the Site only.
Goldfinch *Carduelis carduelis*	GO	Green	Possible breeder, adults in suitable habitat. Recorded on most survey visits	Possible breeder, adults in suitable habitat. Recorded on most survey visits.	Possible breeder, adults in suitable habitat. Recorded on most survey visits	Possible breeder, adults in suitable habitat. Recorded on most survey visits	Distributed throughout Site as a probable or possible breeder.

Species	BTO code	Status	Area A	Area B	Area C	Area D	Largest observed single survey count
			Notes	Notes	Notes	Notes	
Yellowhammer	Y.	Section 41 species. Red: BDp2, BDMp1	Probable breeder, recorded on every survey visit within suitable habitat and permanent territories 3 permanent territories. Bird registrations: 6 on 12/04/2023 4 on 10/05/2023 3 on 25/05/2023 12 on 06/06/2023	Probable breeder, recorded on every survey visit within suitable habitat and permanent territories 13 permanent territories. Bird registrations: 26 on 12/04/2023, with one aggressive behaviour displayed. 26 on 10/05/2023 8 on 25/05/2023 19 on 06/06/2023	Confirmed breeder, recorded on every survey visit within suitable habitat, copulating and permanent territories. 5 permanent territories. Bird registrations: 9 on 13/04/2023 7 on 13/05/2023 11 on 25/05/2023 with copulation recorded. 6 on 06/06/2023	Probable breeder, recorded on every survey visit within suitable habitat and permanent territories 4 permanent territories. Bird registrations: 9 on 13/04/2023 6 on 13/05/2023 14 on 25/05/2023 9 on 06/06/2023	Distributed throughout Site as a confirmed or probable breeder with an average recording of 43 individual registration across the Site per survey. 25 territories recorded across the Site with a strong territory holding recorded in Area B.
Reed bunting	RB	Section 41 species. Amber: BDMp2	NR	Probable breeder, adults recorded in suitable habitat 2 permanent territories Bird registrations: 5 on 10/05/2023 1 on 25/05/2023 1 on 06/06/2023 singing	Probable breeder, adults recorded in suitable habitat. 2 permanent territories Bird registrations: 3 on 13/04/2023 1 on 13/05/2023 1 on 25/05/2023 2 on 06/06/2023 as aggressive encounter	Possible breeder, adults recorded in suitable habitat No confirmed territories. Single recorded on 25/05/2023	Recorded throughout Site as a probable or possible breeder with 4 territories recorded across the Site.

3.20 The following sections provide a breakdown by survey area.

RESULTS FOR SURVEY AREA A

3.21 38 species were recorded during the survey visits of Area A. Of these, two species were recorded flying over Area A and not making further use of it: herring gull and greenfinch.

3.22 Therefore, 36 species were recorded directly using Area A. Of these, six are red status species: skylark, starling, house sparrow, mistle thrush, linnet and yellowhammer and nine are amber status species: mallard, woodpigeon, kestrel, whitethroat, wren, song thrush, dunnock, willow warbler and snipe.

3.23 Seven species are listed as a Species of Principal Importance: skylark, starling, song thrush, house sparrow, dunnock, linnet and yellowhammer.

3.24 Of the 36 species that directly use Area A, three were recorded as 'confirmed breeders', 12 were 'probable breeders', 21 were 'possible breeders' and three were 'non-breeders'.

RESULTS FOR SURVEY AREA B

3.25 35 species were recorded during the survey visits of Area B. Of these, one species was recorded flying over Area B and not making further use of it: herring gull.

3.26 Therefore, 34 species were recorded directly using Area A. Of these, seven are red status species: skylark, starling, mistle thrush, house sparrow, yellow wagtail, linnet and yellowhammer and seven are amber status species: woodpigeon, stock dove, whitethroat, wren, song thrush, dunnock and reed bunting.

3.27 Nine species are listed as a Species of Principal Importance: skylark, starling, song thrush, house sparrow, dunnock, yellow wagtail, linnet, yellowhammer and reed bunting.

3.28 Of the 34 species that directly use Area B, 11 were 'probable breeders', 21 were 'possible breeders' and two were 'non-breeders'.

RESULTS FOR SURVEY AREA C

3.29 31 species were recorded during the survey visits of Areas C. Of these, two species were recorded flying over Area B and not making further use of it: herring gull and cormorant.

3.30 Therefore, 29 species were recorded directly using Areas C. Of these, four are red status species: skylark, nightingale, linnet and yellowhammer and 10 are amber status species: greylag goose, stock dove, woodpigeon, kestrel, whitethroat, wren, song thrush, bullfinch, dunnock and reed bunting.

3.31 Seven species are listed as a Species of Principal Importance: skylark, song thrush, dunnock, linnet, bullfinch, yellowhammer and reed bunting.

3.32 Of those species using the survey areas, one species: kingfisher is listed under Schedule 1 of the WCA.

3.33 Of the 29 species that directly use Area C, one was recorded as a 'confirmed breeder', 14 were 'probable breeders', 10 were 'possible breeders' and four 'were non-breeders'.

RESULTS FOR SURVEY AREA D

3.34 28 species were recorded during the survey visits of Area D. Of these, two species were recorded flying over Area D and not making further use of it: herring gull and common crossbill.

3.35 Therefore, 26 species were recorded directly using Area D. Of these, three are red status species: house sparrow, linnet and yellowhammer and seven are amber status species: stock dove, woodpigeon, bullfinch, whitethroat, wren, song thrush and dunnock.

3.36 Seven species are listed as a Species of Principal Importance: skylark, song thrush, dunnock, linnet, bullfinch, yellowhammer and reed bunting.

3.37 Of the 26 species that directly use Area D, nine were 'probable breeders', 15 were 'possible breeders' and one was a 'non-breeder'.

4. EVALUATION

SUMMARY

4.1 Of the bird species recorded, given the bird species assemblage, foraging and nesting habitat present, recorded breeding evidence, territories and peak counts the Site is likely to be of ecological importance at a Local (district) level for its breeding notable bird assemblage with the exception of:

- County importance for breeding yellowhammer (based on territories and suitable habitat availability), and
- Local (district) importance for breeding skylark and nightingale (based on territories and suitable habitat availability).

4.2 Overall, the Site is assessed as supporting a typical breeding bird assemblages for intensively managed farmland with small woodland pockets and ditch habitats. The majority of birds encountered are common and widespread species of low conservation concern.

CONSERVATION STATUS

4.3 A total of 52 bird species were recorded within the Site, with 48 directly using the Site. Of these, 32 are notable species as follows:

- Ten are listed as a Species of Principal Importance: skylark, starling, song thrush, house sparrow, dunnock, yellow wagtail, bullfinch, linnet, yellowhammer and reed bunting.
- Ten are listed as red status species: skylark, starling, mistle thrush, nightingale, house sparrow, yellow wagtail, bullfinch, greenfinch, linnet and yellowhammer.
- 13 are listed as amber status species: greylag goose, mallard, snipe, stock dove, woodpigeon, kestrel, whitethroat, willow warbler, wren, song thrush, dunnock, bullfinch and reed bunting.
- One species using the Site: kingfisher is listed under Schedule 1 of the WCA.

4.4 Due to the large size of the Site and combination of habitats present, this assemblage is assessed as typical of the habitat types present within the wider local area and county. These notable species have however been further assessed in relation to abundance, species diversity, habitat importance and ZoI, below.

DESIGNATED SITE CRITERIA

4.5 No species listed on the qualifying criteria for the Dungeness Romney Marsh and Rye Bay SPA Ramsar were recorded, therefore no further evaluation has been undertaken in respect of these designated sites.

SPECIES ABUNDANCE

4.6 No counts of any breeding bird species recorded within the Site approach 1% of national breeding population estimates (Woodward et al., 2020). As such, the Site did not support breeding populations of national importance for any species.

4.7 At a county level, territories recorded during the field survey were compared with those detailed within the Kent Bird Reports (Kent Ornithological Society, 2019 - 2024). All species were recorded in low numbers in comparison with county records aside from the species discussed below.

YELLOWHAMMER

- Breeding bird survey trend data for Kent indicates that yellowhammer breeding populations are stabilising after a steady decline however, the trend confidence limits are wide and few breeding bird survey squares are being covered. The trend for England and the south-east continues to show a decline. Across the Site important habitats to support breeding and foraging yellowhammer occurs i.e. native species hedgerows with an understorey of mixed herbaceous vegetation adjacent to field margins.
- The Site is assessed to be of County importance for breeding yellowhammer based on the recorded presence of between 33 to 36 aggregated territories of this species recorded between combined years along with confirmed or probable breeding recorded on all survey parcels and the widespread availability of breeding habitat. The aggregated territory number is based on 25 territories recorded in Areas A to D in 2023 and 8-11 territories recorded in Area E in 2022 and using a precautionary assessment of simple addition of territories with no shift in territories by birds and continued use between years.

SKYLARK

- Breeding bird survey trend data for Kent (Kent Ornithological Society (2015-2019) indicates that skylark breeding populations are stabilising and potentially increasing in-line with the trend for the south-east. However, the trend confidence limits are wide and few breeding bird survey squares are being covered. With the exceptions of survey Areas C and D, important habitats within the Site i.e. large, wide open arable fields with few high boundaries that provide suitable crop heights in spring and summer, are suitable to support breeding and foraging skylark.
- The Site is assessed as being of Local (district) importance for breeding skylark, based on the recorded presence of between 29 to 32 aggregated territories recorded between combined years along with probable breeding evidence recorded within most parcels, counts of 35+ on most visits and the widespread available nesting habitat present within the Site. The aggregated territory number is based on 20 territories recorded in Areas A to D in 2023 and an additional 9 to 12 territories recorded in Area E in 2022 and using a precautionary assessment of simple addition of territories with no shift in territories by birds and continued use between years.
- A notable absence of skylark territory presence was recorded in Parcels C, D and F during 2023 compared to 2020, although registrations of skylark were recorded in these areas. This resulted in a lower number of combined territories (29 to 32) across 2022-2023 compared to 2020 (39 to 46).

NIGHTINGALE

- The railway embankment adjacent to the survey Area C is of Local (district) level importance for breeding nightingale, based on a review of Kent Bird Reports (Kent Ornithological Society (2017-2023), but note that this area is outside the Site, not subject to any habitat changes and unlikely to be impacted.

SPECIES DIVERSITY

4.8 Of the other bird species recorded, given the total of bird species and peak counts, the Site is likely to be of ecological importance at a Local level for its breeding bird assemblage.

4.9 The Site is unlikely to qualify for Kent LWS selection criteria (which are often used to inform assessments of whether a recorded species population / assemblage may be of county level importance) but it is noted that a small number of Kent Red Data Book species (cormorant, grey heron and little egret) have been recorded on occasion within the Site. The on-Site habitats are however similar to abundant agricultural habitats within the district.

HABITAT AND DISTRIBUTION

4.10 During the breeding bird survey in 2022, it was noted that the Site supports wide field margins with tall herbaceous vegetation that are adjacent to the crop and provides hedgerows with a dense vegetated understorey. However, the 2023 survey noted that these margins were reduced in width and that this was likely to impact the availability of foraging habitat in the summer / winter months.

4.11 Bird species recorded on Site were registered utilising the woodland edges, hedgerows, scrub and ditch habitat and any adjacent gardens and associated buildings. Bird registrations within the cereal fields generally corresponded with foraging behaviour only, except for skylark which is a ground nesting bird that utilises cereal fields.

POTENTIAL IMPACTS FOR FURTHER ASSESSMENT

4.12 Details of impact assessment, avoidance, mitigation, compensation and enhancement measures relating to birds are not included in this report. Instead, these measures are be set out in the **ES Volume 2: Chapter 9: Biodiversity (Doc Ref. 5.2**) [APP-033] and the accompanying **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**. Measures within these documents remain appropriate following evaluation of the 2023 breeding season survey results.

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ANNEX 1: SUMMARY OF LEGISLATION, PLANNING POLICY AND GUIDANCE

LEGISLATION

5.1 The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.

5.2 The legal protection afforded to protected species overrides all planning decisions.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

5.3 The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act ('WCA') 1981 (as amended).

5.4 When breeding, all birds, their nest, eggs and nestlings are afforded protection under the Wildlife and Countryside Act 1981, as updated by the 'Countryside Right of Way Act 2000'). Therefore, it is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- intentionally take or destroy the eggs of any wild bird.

5.5 Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) for which there are additional offences for disturbing these birds at their nest, or their dependent young. Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Generally, no licences are available for disturbance during a development even in circumstances where that development is consented including a valid planning permission.

Conservation of Habitats and Species Regulations 2017

5.6 A number of bird species recorded in the UK (including those that are resident, overwintering and migratory) are protected at a European level under the European Commission (EC) Directive of the Conservation of Wild Birds 2009 (2009/147/EC). The Directive applies to 193 bird species or sub-species which are:

a. in danger of extinction;
b. rare, or have restricted local distribution;
c. vulnerable to specific changes in their habitat; or
d. in need of particular attention for reasons of the specific nature of their habitat.

5.7 These species are afforded enhanced legal protection and EU member states have a responsibility to maintain the populations of these species at a level that corresponds to their ecological, scientific and cultural requirements (Article 2). This Directive was

transposed into English law through the Conservation of Habitats and Species Regulations 2017 (as amended).

5.8 The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

5.9 The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

5.10 Species listed on Annex 1 of the Directive are those for which the UK Government is required to take special conservation measures including the designation of land as Special Protection Areas (SPAs) to ensure the survival and reproduction of these species throughout their distributions.

5.11 These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (referred to as the 2019 Regulations) have created a national site network on land. These sites are automatically included within the Bern Convention Emerald Network; a network of core breeding and resting sites that are protected for rare and threatened species. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network

NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006 (AS AMENDED)

5.12 Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions.

5.13 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 has been used to identify habitats and species considered to be a conservation priority at a national scale. These are also called Habitats or Species of Principal Importance. The importance of these habitats and species are recognised in the National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government, 2023).

5.14 The list of 49 bird 'priority species' comprises those identified as requiring action under the UK Biodiversity Action Plan (UKBAP), which continue to be regarded as species of conservation priority under the UK Post-2010 Biodiversity Framework (succeeded the UKBAP in July 2012).

PLANNING POLICY

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

5.15 In addition to primary legislation, the government published the National Planning Policy Framework on 12th December 2024. Within the NPPF, Chapter 15 is headed *Conserving and enhancing the natural environment* (Paragraphs 187 to 195).

5.16 Of relevance are the following statements: -

'Planning policies and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures (Paragraph 187d).

5.17 Paragraph 188 states that: -

'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'

5.18 To protect and enhance biodiversity and geodiversity, plans should: -

'a) 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 (Paragraph 192a)*; and*

b) 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.' (Paragraph 192b).

5.19 When determining planning applications, local planning authorities should apply the following principles (Paragraph 193): -

'a) 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;

b) 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;

c) 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

d) development whose primary objective is to conserve or enhance biodiversity should be supported, while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

5.20 In addition to the above, Paragraph 194 confirms that the following should be afforded the same protection as sites that are included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (Special Areas of Conservation, Sites of Community Importance, Special Protection Areas and any relevant Marine Sites): -

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

5.21 Paragraph 195 states that: -

'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.'

5.22 This statement applies to the assessment of effects in relation to all confirmed, possible, potential and/or proposed designated sites of international importance.

GUIDANCE

BIRDS OF CONSERVATION CONCERN (BOCC)

5.23 Although it does not offer any legal protection, Birds of Conservation Concern 5 (Stanbury et al., 2021) provides guidance on the conservation status of UK bird species. Thus, it can be used to inform judgements on the ecological importance of bird populations and the habitats that they rely on, particularly at a local level.

5.24 The Birds of Conservation Concern (BoCC) assigns bird species red and amber status based on a set of criteria that are summarised in the following table. Red status species are those species of highest conservation concern and green status species are those of low or no conservation concern. Amber status species are those species of some conservation concern.

Table 6 Birds of Conservation Concern (BoCC) red and amber list criteria.

Criteria	BoCC Status Code	Description
Red list	HD	Historical decline in breeding population.
	BDp[1] / BDp[2]	Severe breeding population decline over 25 years / longer term.
	BDr[1] / BDr[2]	Severe breeding range decline over 25 years / longer term.
	WDp[1] / WDp[2]	Severe non-breeding population decline over 25 years / longer term.
	WDr[1]	Severe non-breeding range decline over 25 years.
	IUCN	Globally threatened – CR (critically endangered) EN (endangered) VU (vulnerable).
Amber list	BDMp[1] / BDMp[2]	Moderate breeding population decline over 25 years / longer term.
	WDMp[1] / WDMp[2]	Moderate non-breeding population decline over 25 years / longer term.
	BDMr[1] / BDMr[2]	Moderate breeding range decline over 25 years / longer term.
	WDMr[1]	Moderate non-breeding range decline over 25 years.
	ERLOB	Threatened in Europe – CR (critically endangered) EN (endangered) VU (vulnerable).
	HDrec	Historical decline in breeding population in recovery.
	BR / WR	Breeding rarity / non-breeding rarity.
	BL / WL	Breeding localisation / non-breeding localisation.
	BI / WI	Breeding bird of international importance / non-breeding bird of international importance.
Green	N/A	Green list species are not of conservation concern and include all other commonly occurring birds in the UK..
Other	N/A	Non-native species (e.g. Canada goose (*Branta canadensis*), feral pigeon (*Columba livia domestica*)) are not afforded Red, Amber or Green list status

KENT LOCAL WILDLIFE SITE SELECTION CRITERIA

5.25 In Kent an individual LWS can be selected for birds if it meets the criteria within Kent Local Wildlife Site Selection Criteria (Kent Wildlife Trust, 2022). These guidelines state that the criterion for selection of Local Wildlife Sites applies to birds as follows

'Birds

133) A set of criteria has been established by Kent Ornithological Society, as the relevant expert organisation, for the selection of Wildlife Sites on the basis of their bird fauna (which is here taken to mean the naturally occurring populations of wild birds on a site). The criteria are based on established criteria for the selection of Sites of Special Scientific Interest, and on the Kent Red Data Book.

134) The criteria are intended to be applied to areas of habitat which are more-or-less discrete and homogenous. For example, a large block of woodland should not be treated as part of the same site as a large block of farmland. However, an intimately mixed area of small fields, hedges and small woods may be treated as a unit, as may the mix of scrub, swamp, marsh and open water vegetation associated with flood plains or around abandoned quarries.

135) The criteria have been designed to recognise

a) The rarity of certain breeding and wintering bird species;

b) Birds which may be considered vulnerable because their populations are in decline;

c) Birds which are vulnerable because of their colonial nesting habitats;

d) Birds which may be considered vulnerable because their non-breeding populations are

concentrated in a small number of sites; and

e) Sites of importance for the presence of a diversity of species.

A site should be selected as a Local Wildlife Site if it can be considered as a single, identifiable unit (as explained above) in terms of its bird fauna and where

• It is occupied regularly by at least 2.5% of the county population of any one or more bird species, based on the most recent and authoritative data;

OR

• It is occupied regularly as a breeding site by species with a Kent population of 50 or fewer territories;

OR

• It holds ten or more Kent Red Data Book 2 (KRDB2) species in the breeding season;

OR

• It holds three or more Kent Red Data Book 3 (KRDB3) species at the appropriate time of year (normally this should not include a combination of breeding and wintering species);

OR

• It holds one of the five largest colonies of colonial seabirds (with the exception of herring gull and black-headed gull), grey heron, little egret or sand martin;

OR

• It is occupied regularly by 5% or more of the county population of any one or more species in non-breeding seasons, based on the most recent and authoritative data;

OR

• It has been recorded as being regularly used in recent years by at least 50 breeding bird species;

OR

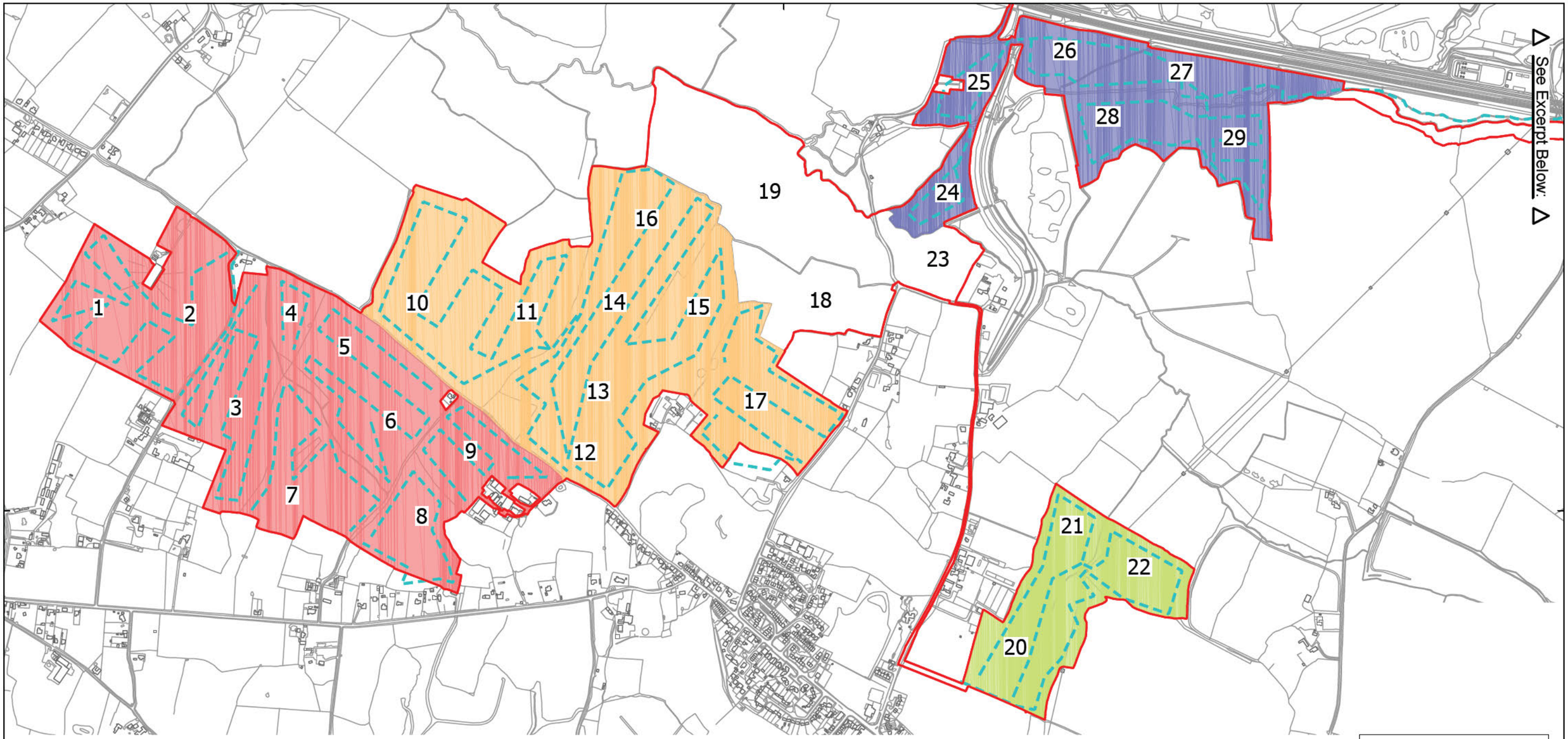
• It has been recorded as being regularly used in recent years by at least 60 wintering bird species;

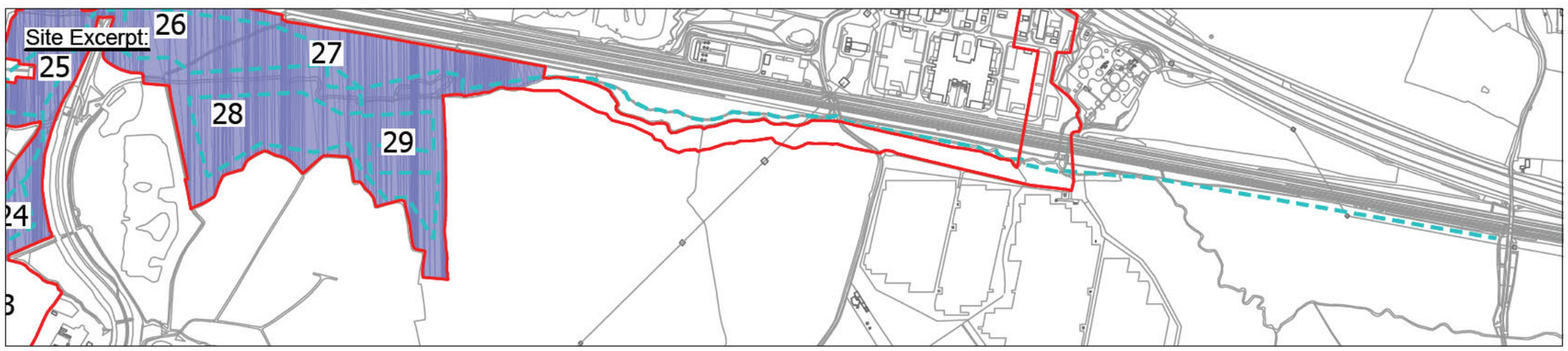
OR

• It has been recorded as being regularly used in recent years by at least 100 passage bird species.'

ANNEX 2: BREEDING BIRD SURVEY ROUTES 2023

Figure 1 *Survey route denoted by the blue dashed line.*





LEGEND:

- Survey transect route used in 2023
- Survey area A, encompassing field numbers: 1, 2, 3, 4, 5, 6, 7, 8, and 9
- Survey area B, encompassing field numbers: 10, 11, 12, 13, 14, 15, 16, and 17
- Survey area D, encompassing field numbers: 20, 21, and 22
- Survey area C & F, encompassing field numbers: 24, 25, 26, 27, 28 and 29
- Order limits
  Total area approx: 191.538 ha.

0 100 200 m
1:10000

rev.	rev. date	auth.	rev. note
P01	20/09/24	MW	Initial issue.

client. EPL 001 Limited
project. Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0163 rev. P01
drawing title. Report Figure 1
Breeding Bird Survey Routes 2023
suit. S4
APFP 5(2)(l)(ii)

rev date. 20/09/24
scale. 1:10000
sheet. A3
drawn. NA
checked. MW

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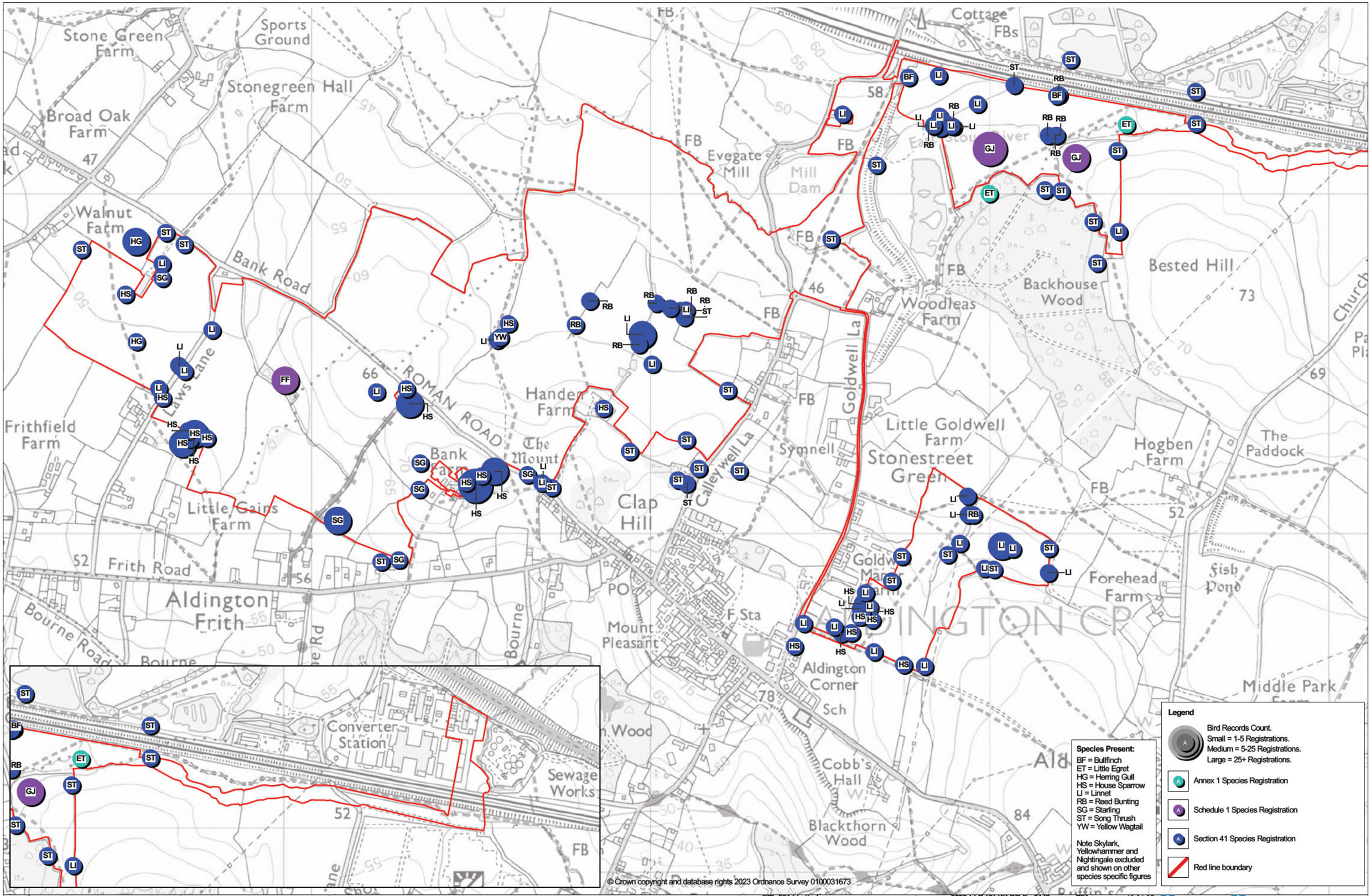
ANNEX 3: BREEDING BIRD SURVEY PLANS 2023



Species Present:
BF = Bullfinch
ET = Little Egret
HG = Herring Gull
HS = House Sparrow
LI = Linnet
RB = Reed Bunting
SG = Starling
ST = Song Thrush
YW = Yellow Wagtail

Note Skylark, Yellowhammer and Nightingale excluded and shown on other species specific figures

Legend

Bird Records Count.
Small = 1-5 Registrations.
Medium = 5-25 Registrations.
Large = 25+ Registrations.

Annex 1 Species Registration

Schedule 1 Species Registration

Section 41 Species Registration

Red line boundary

0 100 200 m
1:10000

rev.	rev. date	auth.	rev. note
P01	10.01.2025	MW	Initial issue.

client. EPL 001 Limited
project. Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0143 rev. P01
drawing title. Breeding Bird Survey Plan 2023
A1; WCA1; S41
Map 1 of 3
suit. S4

rev date. 10.01.25
scale. 1:10000
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checked. LS

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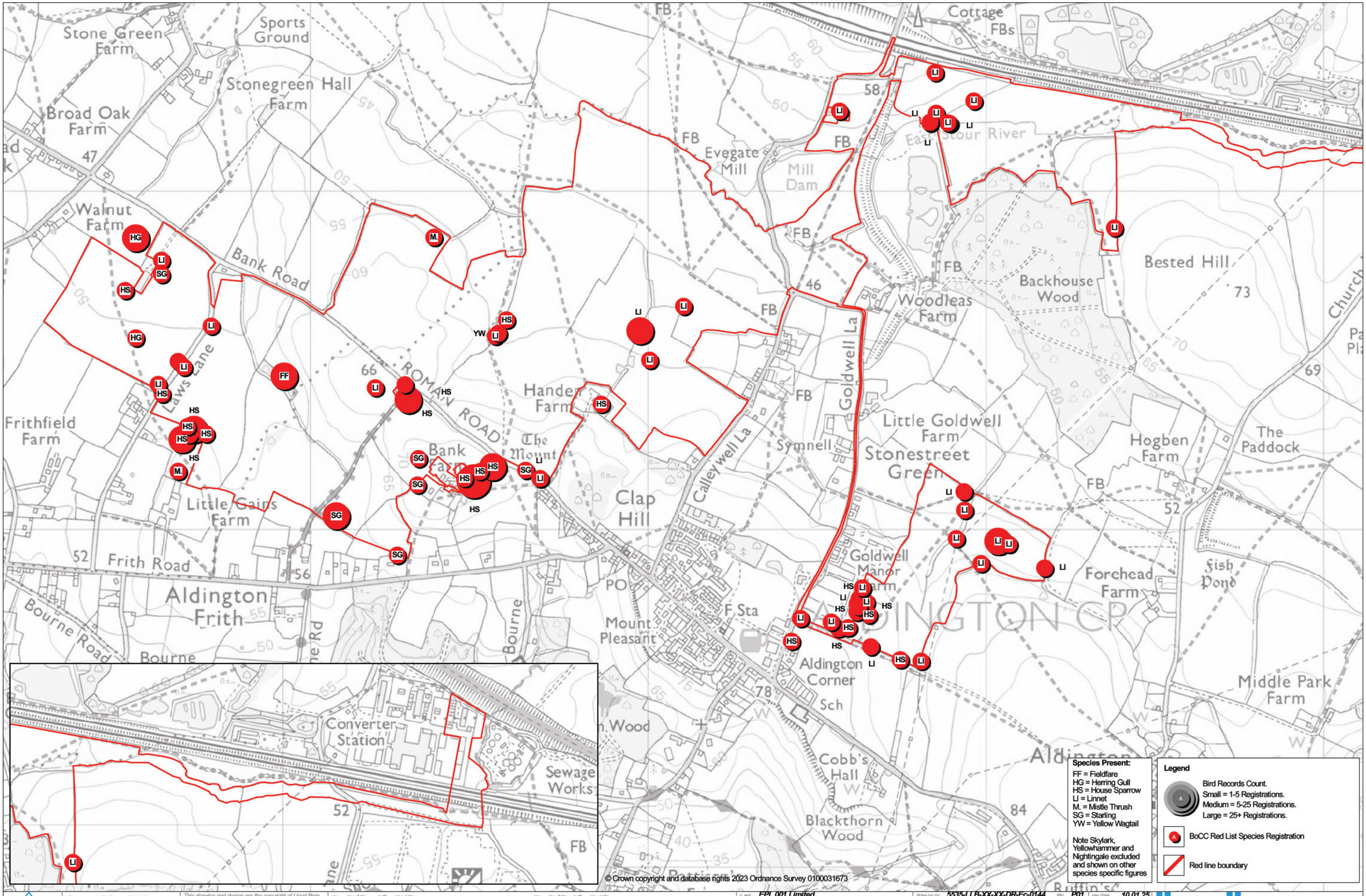

Species Present:

FF = Fieldfare
HG = Herring Gull
HS = House Sparrow
LI = Linnet
M. = Mistle Thrush
SG = Starling
YW = Yellow Wagtail

Note Skylark, Yellowhammer and Nightingale excluded and shown on other species specific figures

Legend

Bird Records Count.
Small = 1-5 Registrations.
Medium = 5-25 Registrations.
Large = 25+ Registrations.

BoCC Red List Species Registration

Red line boundary

rev.	rev. date	auth.	rev. note
P01	10.01.2025	MW	Inta ssue.

client.	EPL 001 Limited
project.	Stonestreet Green Solar Land North And West Of Aldington Kent
drawing title.	Breeding Bird Survey Plan 2023 BoCC Red List Map 2 of 3
drawing no.	5535-LLB-XX-XX-DR-Ec-0144
rev.	P01
suit.	S4
rev date.	10.01.25
scale.	1:10000
sheet.	A3
drawn.	NA
checked.	LS

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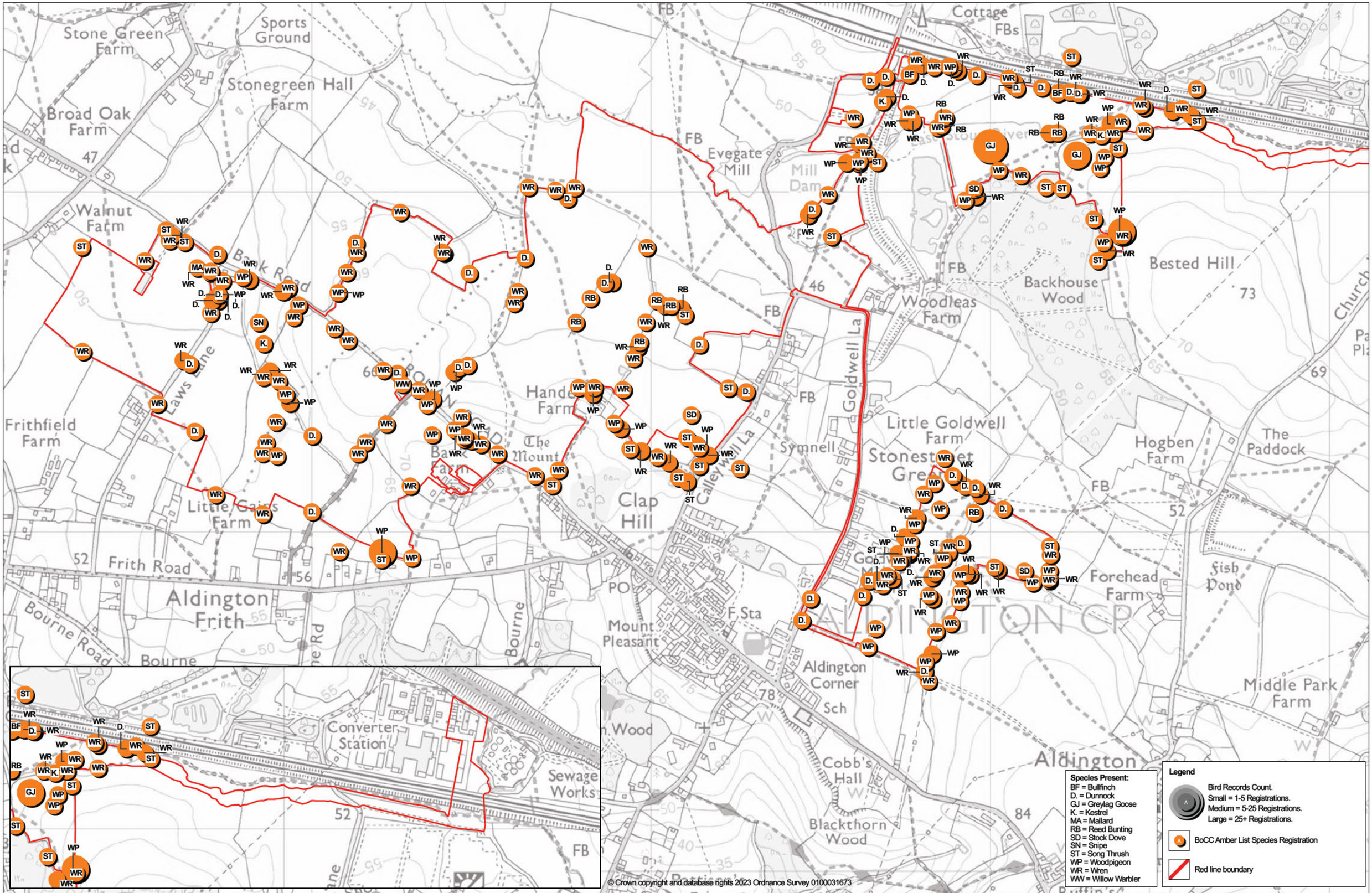

Species Present:
BF = Bullfinch
D. = Dunnock
GJ = Greylag Goose
K. = Kestrel
MA = Mallard
RB = Reed Bunting
SD = Stock Dove
SN = Snipe
ST = Song Thrush
WP = Woodpigeon
WR = Wren
WW = Willow Warbler

Legend
Bird Records Count.
Small = 1-5 Registrations.
Medium = 5-25 Registrations.
Large = 25+ Registrations.
BoCC Amber List Species Registration
Red line boundary

0 100 200 m
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rev.	rev. date	auth.	rev. note
P01	09.01.2025	MW	Init a issue.

rev.	rev. date	auth.	rev. note

client. EPL 001 Limited
project. Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0145 rev. P01
drawing title. Breeding Bird Survey Plan 2023
BoCC Amber List
Map 3 of 3
suit. S4

rev date.	09.01.25
scale.	1:10000
sheet.	A3
drawn.	NA
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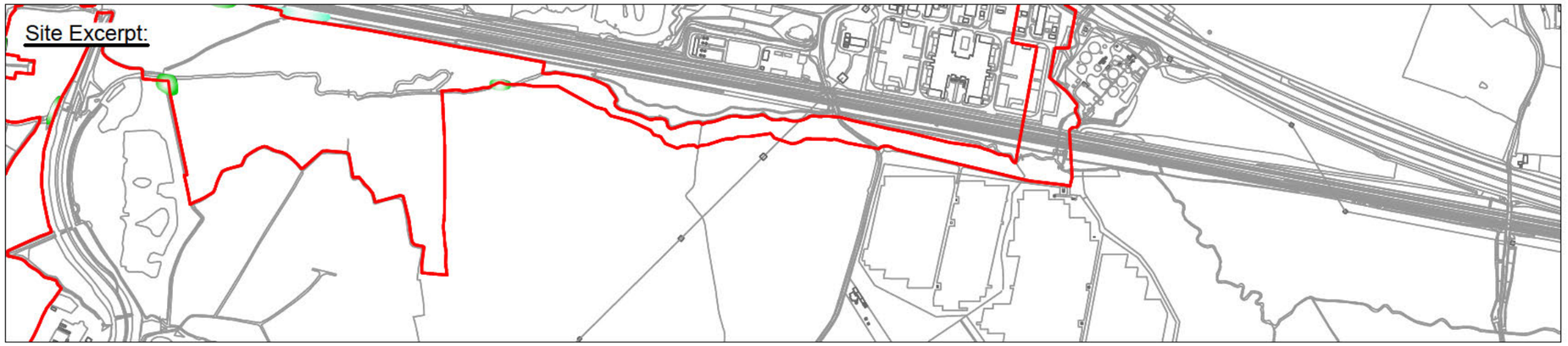
ANNEX 4: BREEDING BIRD TERRITORIES 2023

△ See Excerpt Below: △

Site Excerpt:



LEGEND:

- Yellowhammer territory
- Skylark territory
- Nightingale territory
- Order Limits
  Total area approx: 191.538 ha.

0 100 200 m

1:10000

rev.	rev. date	auth.	rev. note
P01	20/09/24	MW	Initial issue.
P02	16/01/25	MW	Amended title

client. *EPL 001 Limited*

project. *Stonestreet Green Solar*
Land North And West Of Aldington
Kent

drawing no. *5535-LLB-XX-XX-DR-Ec-0164* rev. *P02*

drawing title. *Report Figure 5*
Breeding Bird Territories 2023

suit. *S4*

APFP *5(2)(i)(ii)*

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scale. *1:10000*
sheet. *A3*
drawn. *NA*
checked. *MW*

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Stonestreet Green Solar

Annex 3 - Bat Activity Report (2023 Season)

BAT ACTIVITY 2023 SURVEY REPORT

EPL 001 LIMITED

STONESTREET GREEN SOLAR

LAND NORTH AND WEST OF ALDINGTON

KENT

REF: 5535-LLB-RP-EC-0043

STATUS: FINAL

DOCUMENT ISSUED: 31/01/2025

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EXECUTIVE SUMMARY

S.1 This Bat Activity Survey Report has been prepared on behalf of EPL 001 Limited ('the Applicant') to detail the results of bat activity surveys of the Site in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project').

S.2 The surveys form a 2023 survey season update to activity surveys previously conducted during 2020 and 2022 which are reported within the bat activity report submitted as part of the DCO Application, Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g- 9.5n (Doc Ref. 5.3)** [APP-090].

S.3 The Site was assessed as having broadly moderate suitability for foraging and commuting bats within the **ES Volume 4, Appendix 9.6: Preliminary Ecological Appraisal (Doc Ref. 5.4)** [APP-088] . Varying levels of suitability were assessed across the Site with river, woodland and waterbodies assessed as having the highest suitability, and arable and improved grassland being the lowest. This informed an update survey effort (taking into account the extensive survey during 2020 and 2022) as follows:

- Five walked transect routes sampling bat activity across the entire Site during spring, summer and autumn. Fifteen transect survey visits were carried out in total.
- A static detector survey of the Site from May to September 2023 (inclusive), five sampling locations were utilised with a recording survey effort of over 400 static detector hours in total.

S.4 The combined survey results confirmed a species assemblage using the Site of common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, brown long-eared bat, *Myotis* species (including confirmed Daubenton's bat and Natterer' bat), noctule, serotine and Leisler's bat.

S.5 Overall, the static detector passes per hour (pph) value for the Site for all combined species was approximately 39 pph and assessed as a 'moderate' level of activity. There is however large variation within this figure, especially when reviewed by location and species. Transects recorded similar activity levels of either 'moderate' or 'low'.

S.6 Activity from both transects and static detectors identified common pipistrelle and soprano pipistrelle as being the most frequently recorded species within the Site. These two species comprised approximately 69.5% and 19.9% of the transect passes and 87% and 10% of the static passes respectively.

S.7 The relatively large proportion of Myotis species passes (approx. 5% of transect data but less than 1% of static) appears in part to be associated with the riparian habitats of the East Stour River, although higher activity levels in the south of the Site were recorded.

S.8 The range of species reflects the size of the Site, mix of habitats present (including woodland, watercourses and grassland) and is likely reflective of the wider similar

landscape present beyond the Site across the district. The range of species is also similar to that recorded during 2020 to 2022. Passes of the remaining uncommon and rarer species reflect the extensive survey effort and size of the Site, with none of these species being recorded as large number of passes or as a large proportion of the data set.

S.9 Based on the range of bat species recorded at the Site and known to occur within the wider local area and taking into consideration the prevalence of similar habitat types across the wider districts and county, the Site is assessed as being of local importance for forging and commuting bats.

S.10 Impacts on bat commuting, roosting and foraging habitats will be avoided and minimised by design, and new habitats for bats will be created on Site to ensure that the local populations present within the Site are not only maintained but improved wherever possible. Details of avoidance, mitigation, compensation and enhancement measures relating to bats are not included in this report. Instead, these measures (which remain appropriate following evaluation of the 2023 survey results) are set out in the **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033] and the accompanying Ecological Mitigation and Enhancement Strategy (EMES) forming part of the **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B)).**

1. INTRODUCTION

1.1 This Bat Activity Survey Report has been prepared on behalf of EPL 001 Limited ('the Applicant') to detail the results of bat activity surveys (inclusive of walked transects and deployment of static detectors associated with these transects) of the Site during May to September 2023 in relation to the Development Consent Order ('DCO') application for Stonestreet Green Solar ('the Project').

1.2 These 2023 surveys provide an update to bat activity surveys previously carried out at the Site during 2020 and 2022 and reported in the bat activity report submitted as part of the DCO application, Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.4)** [APP-089].

THE PROJECT

1.3 The Project comprises the construction, operation, maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

1.4 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW'). The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 ('HS1') railway.

1.5 The location of the Project is shown in Figure 1.1: Site Location Plan of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3)** [APP-043]. The Project will be located within the Order limits (the land shown on the **Works Plans (Doc Ref. 2.3(B))** [REP1-003] within which the Project can be carried out). The Order limits plan is provided as Figure 1.2: Order Limits of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3) [**APP-043**]**. Land within the Order limits is referred to as the 'Site'.

SITE DESCRIPTION

1.6 The Site area is approximately 192 hectares, located to the north and west of the village of Aldington to the south-east of Ashford in Kent .The Project lies within the administrative areas of Kent County Council ('KCC') and Ashford Borough Council ('ABC') local authorities. Further information on the Project, including proposed infrastructure and design, is provided in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)** [REP1-018].

1.7 The Site supports hedgerows, parcels of woodland, drainage ditches, ponds and arable field margins. The East Stour River flows in an east to west direction within, and adjacent to, the northern part of the Site.

1.8 Note that field references within this report follow issue IS24 of the Indicative Proposed Layout Plan, Evolution Power (2023). Fields and Site areas are described as follows:

- The South Western Area, Fields 1 to 9.
- The Central Area, Fields 10 to 19 and 23 to 25.
- The South Eastern Area, Fields 20 to 22.
- The Northern Area, Fields 26 to 29.
- Project Substation (location of the Project Substation, in the north western section of Field 26).
- 'Cable Route Corridor' (export of electricity from the Project at 132 kilovolt ('kV') via underground cables (the 'Grid Connection Cable') to the Sellindge Substation).
- 'Cable Route Crossing' (use of an existing cable duct under the High Speed 1 / Channel Tunnel Rail Link ('HS1') railway or through Horizontal Directional Drilling ('HDD') beneath HS1 for the Cable Route connection).
- Sellindge Substation (location of the existing Sellindge Substation).

SCOPE OF WORKS

1.9 This report details the results of bat activity surveys (inclusive of walked transects and deployment of static detectors associated with these transects) of the Site during May to September 2023.

1.10 The surveys provide an update to activity surveys previously conducted during 2020 and 2022 which are reported within Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref.5.4)** [APP-090]**.** The purpose of the update is to maintain a bat activity baseline meeting the validity requirements of CIEEM, 2019.

1.11 Details of avoidance, mitigation, compensation and enhancement measures relating to bats are not included in this report. These measures are set out in the associated Environmental Statement **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033]and the Outline Ecological Mitigation and Enhancement Strategy (EMES) forming part of the **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**.

SURVEY OBJECTIVES

1.12 The objectives of the survey and report are to: -

- Identify the bat species that use the Site;
- Determine the level of Site use by the species present;
- Identify how these bat species utilise on-Site habitats - based on the type of bat activity recorded (foraging and/or commuting);
- Identify any important bat foraging and/or commuting habitats; and
- Assess the geographic level of importance of on-Site habitats for foraging bats.

2. METHOD

DESK STUDY

2.1 A biological records search was undertaken by Kent and Medway Biological Records Centre ('KMBRC') in 2020, April 2022 and updated in August 2023. The data obtained through this search includes records of bats. The search radius was 5km, measured from the Site boundary.

2.2 Records obtained within the ten-year period prior to the date of the record search are considered 'recent.' Records older than this are considered 'historical.'

2.3 The Multi-Agency Geographic Information for the Countryside ('MAGIC') website was used to identify approved European Protected Species ('EPS') bat mitigation licences located within 5 km of the Site.

2.4 A search was also undertaken using the KMBRC data and 'MAGIC' for internationally designated sites (Special Areas of Conservation (SACs)) designated for bats within 10km; other statutory sites designated for bats within 5km and any relevant non-statutory sites within 1km.

PRELIMINARY HABITAT ASSESSMENT

2.5 A PEA Site visit (**ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4)** [APP-088]) was undertaken by [redacted] Hons) on 21st April 20[redacted] various dates in 2022 (during spring and sum[redacted]

2.6 Further updated baseline habitat survey work, including habitat condition assessments, were conducted in June to July 2023 by [redacted] CEnv MCIEEM. A habitat assessment of the previousl[redacted] substation area was carried out on 10th January 2024 [redacted] (Hons) MSc.

[redacted] was a graduate member of the Chartered Institute of Ecology and [redacted]onmental Management ('CIEEM') and had over five years of experience of habitat survey and ecological appraisal at the time of survey.

[redacted]o is a full member of CIEEM and has over 15 years' experience of habitat [redacted]ey and ecological appraisal.

2.9 The initial Site visit included an assessment of the suitability of on-Site and adjacent habitats for roosting, foraging and commuting bats.

[redacted] is a full member of CIEEM and Chartered Environmentalist and has over 15 [redacted]' experience of habitat survey and ecological appraisal. James Madden is an Associate Member of CIEEM and has over 10 years' experience of habitat survey and ecological appraisal.

2.11 An overall bat habitat suitability assessment was also carried out using a review of aerial photography, results of habitat surveys and desk study results to assess the overall suitability of the Site for commuting and foraging bats.

2.12 The Site was then categorised according to the following categories (adapted from Table 4.1 within the *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016)) (as the edition of the survey guidelines applicable at the time of survey) in order to determine and focus further survey effort: -

- **Negligible suitability:** Negligible habitat features present that are likely to be used by commuting or foraging bats.
- **Low suitability:** Habitat that could be used by small numbers of commuting bats such as hedgerow or unvegetated stream but isolated, i.e., not well connected to the surrounding landscape by other habitats. Suitable but isolated habitat that could be used by small numbers of foraging bats, such as a lone tree (not in a parkland situation) or a patch of scrub.
- **Moderate suitability:** Continuous habitat, connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used for bats for foraging such as trees, scrub, grassland or water.
- **High suitability:** Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High quality habitat that is well connected to the wider landscape and is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close, and connected by suitable foraging and/or commuting habitat, to known roosts.

ACTIVITY TRANSECTS

FIELD METHOD

2.13 A bat activity (transect) survey, comprising fifteen dusk visits (three visits per each of the five transects) between June and September 2023 (inclusive) was undertaken in accordance with good practice guidance applicable at the time of survey (Collins, 2016). Note that due to extent of previous data collected at the Site (previous surveys completed in 2020 and 2022), a proportional approach was undertaken to carry out three visits per transect across the survey season, rather than monthly.

2.14 Each transect route comprised 17 predetermined spot counts along the route, in 'high' or 'moderate' suitability areas for bats. The transect routes (Transect 1, 2, 3, 4 and 5) are shown in Annex 2. The transects were (wherever was feasibly possible) direct replicates of the routes surveyed in 2020 and 2022, though small variations in route (due to change in the Site boundaries or practical access routes) did occur.

2.15 A pair of surveyors walked one of the five predetermined transect routes to record bat activity. Surveyors spent five minutes at each spot count and five minutes on each walk between allocated stopping points. Each transect started at sunset and continued for approximately 2 hours and 50 minutes.

2.16 On one of the three survey visits, all five transect routes were walked in reverse. Transect routes were completed in reverse to ensure adequate sampling of bat activity at different times along the transect route and account for any time-space recording bias.

2.17 Surveyors were equipped with a BatScanner detector and a BatLogger M detector with a built-in recording device.

DATA ANALYSIS

2.18 BatExplorer software was used to verify species identifications with automatic identification software used to assist when required or when identification was uncertain.

2.19 The term 'pass' is defined as a single file made up of bat pulses of a single species, i.e. this may be one bat in a file or many bats in a single file.

2.20 For transect data, relative bat activity level descriptions have been interpreted to assist discussion and evaluation. No guidance is available on what constitutes low, moderate or high bat activity based on the number of passes recorded during a transect. This report uses a relative descriptive scale where: -

- Very Low Activity is a mean of less than 2 bat passes per hour.
- Low Activity is a mean of 2 to 25 bat passes per hour.
- Moderate Activity is a mean of 26 to 99 bat passes per hour.
- High Activity is a mean of over 100 bat passes per hour.

2.21 Note the number of passes per transect has also been reviewed in a relative, internal dataset context through review of percentiles of total recorded passes per transect (0-20th percentiles, 21st-40th percentiles, 41st-60th percentiles, 61st-80th percentiles and 81st-100th percentiles).

SURVEY DATES, PERSONNEL AND WEATHER CONDITIONS

2.22 Table 1 provides details of the timings, surveyors and weather conditions recorded during the surveys.

Table 1 Survey details for bat activity transects in 2023.

Date of survey visit	Survey type	Start time	Finish time	Sunset	Surveyors	Weather
15.06.2023	Transect 3	21:12	23:57	21:12	Davey Monk Sarah Putnam	Start/ end weather conditions: - 20°C / 16°C - 15% / 5% cloud cover - 2 BF / 0 BF wind; and - No rain
	Transect 4		23:57		Jason Armstrong Marc Horsted	
	Transect 5		23:57		Laragh Smyth Nina Ryah	

Date of survey visit	Survey type	Start time	Finish time	Sunset	Surveyors	Weather
22.06.2023	Transect 1	21:15	23:50	21:15	Davey Monk	Start/ end weather conditions: - 19°C / 16°C - 10% / 15% cloud cover - 2 BF / 1 BF wind; and - No rain
	Transect 2		23:55		Jason Armstrong	
03.08.2023	Transect 1	20:39	23:34	20:39	Philip Ames Luis Santiago	Start/ end weather conditions: - 19°C / 17°C - 60% / 20% cloud cover - 0 BF / 0 BF wind; and - No rain
	Transect 2				Nikki Stapleton Jaime Turner	
09.08.2023	Transect 3	20:29	23:14	20:29	Philip Ames Katie Spencer	Start/ end weather conditions: - 18°C / 17°C - 0% / 0% cloud cover - 2 BF / 2 BF wind; and - No rain
	Transect 4		23:09		Jaime Turner Sarah Putnam	
	Transect 5		23:09		John Young John Fletcher	
13.09.2023	Transect 1	19:45	21:45	19:15	Jason Armstrong Daniel Webber	Start/ end weather conditions: - 17°C / 14°C - 10% / 5% cloud cover - 1 BF/ 1 BF wind; and - No rain
	Transect 2				Nikki Stapleton Davey Monk	
27.09.2023	Transect 3	18:43	21:32	18:43	Davey Monk Sarah Putnam	Start/ end weather conditions: - 20°C / 19°C - 5% / 5% cloud cover - 1 BF/ 3 BF wind; and - No rain
	Transect 4		21:128		Jack Bage John Fletcher	
	Transect 5		21:28		Philip Ames Daniel Webber	

2.23 The 2023 survey visits were led by [redacted] BSc (Hons), [redacted] BSc (Hons), MCIEEM [redacted] and [redacted] and organised by [redacted] BSc (Hons), MSc, ACIEEM.

2.24 [redacted] is a Qualifying Member of the (CIEEM), has over four years' bat survey experience, and is registered to use the Level 1 Natural England class survey licence for bats (class reference: 2020-49436-CLS-CLS). [redacted] is a full member of CIEEM, has over 15 years' bat survey experience and is registered to use the Level 2 Natural England class survey licence for bats (licence registration refs: 2015-11445-CLS-CLS). [redacted] has over 15 years' bat survey experience. [redacted] has over nine years' bat survey experience.

STATIC (REMOTE) DETECTOR SURVEY

FIELD METHOD

2.25 Static (remote) surveys to record bats across consecutive nights using static detectors were set up across five locations (one per transect) within the Site between June and September (inclusive) in accordance with good practice guidance applicable at the time of survey (Collins, 2016).

2.26 The locations of the static detectors were selected to: -

- Understand the importance of the different areas on Site for bats.
- Increase the likelihood or recording all bat species that use the Site.

2.27 Note that locations are comparable to those used during 2020 and 2022 but due to the extensive number of static locations in 2020 (sixteen), were designed to collect data from similar spatial areas rather than be direct replicates.

2.28 Detectors were set to record from sunset to sunrise for the recommended minimum of five consecutive nights per season in spring, summer and autumn (see deployment dates and weather conditions in Annex 4). As for the transect survey effort, due to extent of previous data collected at the Site, a proportional approach was undertaken to carry out three static deployment periods per transect across the survey season, rather than monthly.

2.29 Two or three Elekon Batlogger A+ static detectors were rotated between the five locations throughout the 2023 survey period. The static detectors were set to record from sunset to sunrise, and the batteries and memory cards were changed after a minimum of five days in the field. All microphones were located at least 1m above the ground, mounted on trees and clear of vegetation between the adjacent habitats and the microphone.

DATA ANALYSIS

2.30 Recordings were analysed through BatExplorer software. It is not possible to determine whether consecutive bat calls are from multiple individual bats passing or from one single bat repeatedly passing the detector. Therefore, each sound file is counted as a single pass by a single bat.

2.31 An activity index is used to calculate relative level of bat activity on each location by dividing bat passes by recording hours.

- **Passes per hour ('pph') = total number of single bat calls/number of hours recorded.**

2.32 Note that, as per transect surveys, the term ‘pass’ is defined as a single file made up of bat sound pulses of a single species, i.e., this may be one bat in a file or many bats in a single file.

2.33 This reflects the relative activity levels and therefore relative importance of the surrounding habitat.

- Note that due to species, seasonal and spatial variation in activity, pph has been presented in a number of contexts in order to aid evaluation as follows:
- 'Overall mean pph' for entire assemblage and for individual species. The mean pph provides an overall assessment of activity across the entire Site and season.
- Pph has also been presented temporally to assist accounting for seasonal variations in activity. Due to the staggered deployment and rotation of static detectors this has been broadly sub-divided into the following categories broadly analogous with key seasonal periods in the bat activity cycle: -
    - May and June (late spring / early summer).
    - July and August (main summer period).
    - September and October (autumn).
- These temporal categories are used to present 'monthly / seasonal pph values', as activity during some periods is likely to be higher or lower than the overall mean pph.
- Pph is also presented spatially (by location) to assist in accounting for variations in activity across the Site. This is presented as a 'location pph' to assist descriptions of spatial variations in activity.

2.34 As described within the transect methodology, limited guidance is available on what constitutes low to high bat activity on a Site based on number of passes or pph. The same relative descriptive scale as for transects has been applied to describe pph values from a scale of ‘very low’ to ‘high’.

2.35 A relative scale (in the context of comparison within the dataset) has also been used following the protocol recommended by Ecobat (www.ecobat.org.uk) where the following descriptions are used: -

- low activity: 0-20th percentiles;
- low to moderate activity: 21st-40th percentiles;
- moderate activity: 41st-60th percentiles;
- moderate to high activity: 61st-80th percentiles; and

- high activity: 81st-100th percentiles.

SURVEY DATES AND WEATHER CONDITIONS

2.36 Annex 4 provides full details of the survey effort (deployment nights, rotation, and recorded hours) for static detectors. In total approximately 412 static detector hours (47 nights) were recorded (using night average lengths provided in Annex 4).

2.37 Static detectors were rotated simultaneously as a group of two or three between the transect locations broadly as follows:

2.38 May and June (late spring / early summer):

- Late May - Location 1, 2 and 3.
- Late May to early June - Location 4 and 5.

2.39 July and August (main summer period):

- Late July to early August - Location 4 and 5.
- Early August - Location 1, 2 and 3.

2.40 September and October (autumn):

- Mid-September - Location 1, 2, 3, 4 and 5.

2.41 Recording hours (over 400 hours total) shown in Annex 4 are summarised by season as follows.

- May and June (late spring / early summer) - 203 hours / 26.25 nights
- July and August (main summer period) - 95 hours / 11 nights.
- September and October (autumn) - 113.5 hours / 10 nights.

2.42 Recording hours shown in Annex 5 are summarised by location as follows.

- Location 1 - 68 hours / 8.5 nights.
- Location 2 - 105 hours / 10 nights.
- Location 3 - 105 hours / 12 nights.
- Location 4 - 70.5 hours / 8.5 nights.
- Location 5 - 62 hours / 6.25 nights.

2.43 A number of equipment failures prevented the target of three deployments of five days at each location being fulfilled. However, the data set is still extensive and any biases from the recording period are addressed within limitations and evaluation.

SURVEY AREA

2.44 The transect routes (Transect 1 to 5) are shown in Annex 2, broadly corresponding to the following land parcels and fields shown in the Illustrative Proposed Layout (EvoPower 2023) as follows:

- Transect 1: Northern Area and northern half of the Central Area, Fields 24 to 25 and Fields 26 to 29,

- Transect 2: South Eastern Area, Fields 20 to 22 and including an additional field south of the Site,
- Transect 3: southern half of the Central Area, Fields 10 to 17,
- Transect 4: eastern half of the South Western Area, Fields 4, 5, 6, 8 and 9 and including an additional field east of the Site,
- Transect 5: western half of the South Western Area, Fields 1, 2, 3 and 7,

2.45 Static detectors were placed along or adjacent to the corresponding activity transects within areas that were assessed as being of 'high' and 'moderate' suitability for foraging and commuting bats during the PEA (**ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4)** [APP-088]).

2.46 Annex 3 shows the detailed locations where the static detectors were placed.

2.47 A very broad description of the habitats in proximity to each static detector location is provided below, noting that only rudimentary evaluation in respect of habitat is provided within this report given the multi-variables affecting results (such as season, weather, variation in deployment lengths encountered on a given deployment) and that the habitat types below are crude descriptions and do not fully reflect the connecting habitat network. Locations are however described as a guide to assist later discussion on individual locations.

2.48 When described as a linear or area habitat, this broadly indicates whether the larger tree / hedgerow / shrub vegetation represents a linear connecting route or where the location is in proximity to a larger expanse of such habitat (i.e., a woodland).

Table 2 Static detector location broad habitat types

Location	Field reference	Habitat description	Linear or area habitat connectivity	Comparable or nearest static detector location from 2022/2020
Location 1	Between 27 and 28	Adjacent to East Stour River, next to wet woodland in north eastern area.	Area and linear	Location 1a
Location 2	20	Treeline and drainage ditch in southwestern area.	Linear	Location 2a
Location 3	Between 14, 15 and 16	Along central hedgerow between two large arable fields in central area.	Area	N/A, Location 3a closest and most similar in terms of habitat.
Location 4	Between 8 and 9	Located along hedgerow at eastern end of south western area.	Linear	Location 3b

Location	Field reference	Habitat description	Linear or area habitat connectivity	Comparable or nearest static detector location from 2022/2020
Location 5	Between 3 and 4	Located on eastern edge of woodland in south western area.	Area	Location 4c

ASSESSMENT AND EVALUATION

2.49 The most recent edition of the bat survey guidelines (Collins, 2023), the Bat Mitigation Guidelines (Reason and Wray, 2023) and the Bat Workers Manual (JNCC, 2004) have been used to: -

- Assess the suitability of the habitats for foraging and commuting bats;
- Inform the scope of survey works required to assess the bat species that utilise the Site for foraging and/or commuting, and the level and type of Site use by these species; and
- Interpret the results of the bat activity survey undertaken.

2.50 The *Guidelines for Ecological Impact Assessment* (CIEEM, 2018) were used as guidance to determine the ecological importance of the Site for bats.

2.51 The relative ecological importance of any bat populations associated with the Site has been determined taking into account the principles described in the UK Bat Mitigation Guidelines (Reason and Wray, 2023) and CIEEM EcIA Guidelines (CIEEM, 2018). For this evaluation, reference has also been made to:

- UK Mammals: Species Status and Population Trends (Matthews et al, 2018);
- Mammals of the British Isles Handbook (Harris et al, 2008);
- The State of the UK's Bats: National Bat Monitoring Programme Populations Trends 2017 (Bat Conservation Trust, 2017); and
- National Bat Monitoring Programme Annual Report 2023 (BCT, 2024)

ZONE OF INFLUENCE (ZOI)

2.52 The potential impacts of a development are not always limited to the boundaries of the Site concerned. The area over which a development may impact ecologically important features is known as the Zone of Influence (ZoI).

2.53 The ZoI is determined by the source / type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the Site boundary.

2.54 In the absence of mitigation and compensation, the proposed development could result in disturbance of foraging and / or commuting bats that might use the on-Site and boundary habitats and would likely result in adverse effects upon the wider local populations of bats. Lighting associated with the proposed development could also result in adverse effects upon roosting and foraging bats.

2.55 Based on the Core Sustenance Zones (CSZs) (BCT, 2016) for the four species of bat recorded frequently using the Site, the ZoI of the Project, in relation to foraging and commuting bats and in the absence of mitigation, is likely to extend to 4km from the Site boundary. This is based on the estimated CSZ value provided in BCT (2016) for the species recorded regularly foraging / feeding on-Site during the bat activity survey (i.e. noctule, (*Nyctalus noctule)*, which has a CSZ of 4km). The other bat species recorded regularly foraging / feeding on-Site have smaller estimated CSZs.

2.56 Details of the proposed mitigation measures relating to commuting and foraging bats that will be delivered, and the lighting-related mitigation measures that will be implemented, are set out in ES Volume 2, **Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033] and the **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**.

2.57 The ZoI of the Project in relation to foraging and commuting bats extends beyond the Site red line boundary. If the bat mitigation and compensation measures set out within the above-referenced documents are effectively implemented, the ZoI in relation to foraging and commuting bats will be minimised.

SURVEY LIMITATIONS

GENERAL

2.58 The bat activity survey was completed across a slightly shorter survey period than would normally be required for a site that supports habitats of moderate and high suitability for foraging bats. The normal recommended survey period for such sites extends from April to October (inclusive) (Collins, 2016). The bat activity survey completed on the Site extended from May to September 2019 (inclusive) to focus on the key mid-season period, given previous extensive survey work conducted during 2020 to 2022 (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2)** [APP-090].

2.59 Common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*P. Pygmaeus*) can echolocate at the same frequency. All frequency calls above 52 kHz were classified as soprano pipistrelle.

2.60 *Myotis* calls are difficult to identify to species level and have therefore been identified as '*Myotis* species' which can include Alcathoe bat (*M. alcathoe*), Bechstein's bat (*M. bechsteinii*), Brandt's bat (*M. brandtii*), Daubenton's bat (*M. daubentonii*), whiskered bat (*M. mystacinus*) and Natterer's bat (*M. nattereri*).

2.61 Bat detectors have some bias towards louder echolocations, and can therefore under record quieter bats, such as the brown long-eared (*Plecotus auritus*) bat, or higher-flying species such as the noctule.

2.62 A few transect and static survey dates were subject to equipment failure or data corruption or loss. Where this occurs, this is stated within the results and any associated minor limitations to the survey or evaluation are clearly stated. This often equates to removing such survey visits / deployments from detailed analysis but using available data to show presence of species, where this can be determined.

TRANSECT SURVEY

2.63 During activity surveys, there is a risk of surveyors mistaking their position on a route in the absence of visible landmarks. To mitigate this limitation, routes were drawn to follow field margins and tramlines to aid navigation in the dark while still surveying suitable areas of habitat.

2.64 Terrain difficulties may be encountered during an activity survey which were not visible on aerial imaging when the transect route was initially planned out and/or which may be unsafe to traverse in the dark. Any ad hoc route alterations were noted by surveyors on paper maps during the survey, and the transect was redrawn prior to the next survey along that route to ensure that all surveyors were following the same, safe, path.

2.65 Survey visits with partially corrupted or lost audio data have been analysed in respect of the presence of species but have been caveated within analysis of activity levels. This is stated when discussing results and evaluation.

STATIC DETECTOR SURVEY

2.66 The static detectors were powered by batteries and carried SD cards with either 16 GB or 32 GB of memory, and on some occasions the detectors could not complete a full survey period (5 days) due to low battery, full memory or equipment malfunction. As the survey effort was maximised by gathering data from the bat activity transect survey, the loss of some data is therefore not considered to be a significant limitation.

2.67 The number and schedule of deployment of static detectors did vary from BCT good practice guidance to accommodate the large size and extent of the Site. Given the large number of recording nights and hours, coupled with the geographic spread achieved, the deployment was however assessed as appropriate for the Site.

2.68 A number of static deployments did not record for a full five day duration, with recording periods provided within Annex 4. While this does reduce some of the static deployment periods beneath the five days specified in good practice guidance (Collins et al, 2016), there are also a number of recording periods where the five day period is exceeded as a partial compensation. Overall the number of recording hours is still extensive (over 400 hours) and provides a large and robust data set. Where the recording periods for a particular location or period may be underrepresented (i.e. reduced number of recorded hours and nights for September compared to May and June), these are addressed within results and evaluation.

2.69 Note that static data analysis includes all dates sampled, without removal of dates for poor weather conditions. Review of the data set shows that weather (temperatures and rainfall) was generally favourable during the recording period and bat passes were recorded on almost all nights, with a minimum ten passes per night (and usually more). The inclusion of all recording nights is also reflective of the Site across the year. Analysis is included to account for the effect of including periods where bat activity is often lower (particularly September) and the data set

has been assessed against season and month to account for such effects. On balance, the inclusion of all data provides a more comprehensive assessment of the Site and while some passes per hour values would be adjusted if some nights were to be removed, the overall assessment of the Site would not be affected.

LIFESPAN OF SURVEY DATA

2.70 If more than 18 months elapse between the completion of surveys (September 2023) and the commencement of works, a suitably experienced ecologist will need to undertake a site visit and review the validity of this report. Additional bat survey work may be required within the period May to October - to ensure the status of the on-Site habitat has not changed and to provide up-to date survey data. In this instance, a suitably experienced ecologist should be consulted for advice.

3. RESULTS

DESK STUDY

3.1 The activity surveys during 2023 were supplemented by the most recent KMBRC data search, carried out in August 2024. This information is included within the 2022-2020 bat activity report (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2)** [APP-090]) and is unchanged, but is repeated below for context.

> *"The KMBRC data search returned recent records of eight bat species within 5km of the Site, including serotine (Eptesicus serotinus), Daubenton's bat, whiskered bat, Natterer's bat, soprano pipistrelle, common pipistrelle, brown long-eared bat and noctule.*
>
> *The closest recorded maternity roost was a soprano pipistrelle maternity roost of 396 bats in June 2012, located c.2.1 km south of the Site at the closest point. The most recent maternity roost was a brown long-eared maternity roost of 20 bats in July 2018, located c.3.8 km north of the Site.*
>
> *The closest hibernation record was a hibernating serotine bat in 1992, located c.5.4 km northwest of the Site at the closest point.*
>
> *A search of Natural England's MAGIC website returned eight records of granted EPS bat mitigation licences within 5km of the Site. Species listed on these licences included common pipistrelle, soprano pipistrelle, brown long-eared bat and serotine. These records relate to five non-breeding roosts and three maternity roosts. No records of hibernation roosts were identified through the MAGIC search.*
>
> *No internationally designated sites (SACs) for bats were identified within 10km of the Site and no other statutory designated sites (i.e. SSSIs) designated for bats were identified within 5km. No detail of the reasons for designation of Local Wildlife Sites ('LWSs') was provided through the KMBRC data search."*

HABITAT ASSESSMENT

3.2 The habitat assessment from the 2023 and the 2022-2020 bat activity report (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2)** [APP-090]) remains relevant to 2023 activity report and so is repeated below for context.

'The PEA highlighted the on-Site hedgerow, woodland, arable field margins and river habitat provided suitable foraging habitat for bats. On-Site hedgerow and river habitats, and the vegetated railway corridor adjacent to the Site, provide suitable commuting opportunities for bats.

In accordance with BCT criteria, the Site was assessed as having broadly moderate suitability for foraging and commuting bats, with the varying levels of suitability across Site habitats generally as follows:

- *River habitats, woodland and waterbodies are assessed as being of high suitability.*

- *Hedgerows, neutral grassland, scrub and the more structurally diverse field margins are assessed as being of high to moderate suitability habitat depending on condition. Some of these features provide additional commuting habitat linkages as a network across the Site and to higher quality habitat areas located beyond the Site boundary.*
- *Improved grassland and arable fields are generally assessed as being of low to negligible suitability for foraging bats.*

These habitats are also connected to suitable off-Site foraging and commuting habitat in all directions.'

3.3 Trees across the Site support suitable roosting features for bats, however the number and distribution of trees with large Potential Roost Features (PRFs) such as cavities, crevices and hollows appears proportionally low in comparison to the size of the Site.

ACTIVITY SURVEY (TRANSECTS)

OVERVIEW

3.4 The bat activity survey recorded an assemblage of at least seven species, as shown in Table 2.

Table 2 Transect assemblage and proportions of relative abundance by species

Key to Species: PIPI - common pipistrelle, PIPY - soprano pipistrelle, NYNO - noctule, EPSE – serotine, PLAU - brown long eared bat, MYSP (unknown Myotis species), MYDA - Daubenton's bat, MYNA - Natterer's bat

	Species recorded as present								
	PIPI	PIPY	NYNO	EPSE	PLAU	MYSP	MYDA	MYNA	Total
Recorded as present out of 15 transect surveys	15	14	6	4	7	8	2	2	15
Species present as percentage (%) of all transects	100%	93%	40%	26%	47%	53%	13%	13%	-
Total no. of recorded passes	757	217	32	21	7	51	2	2	1089
Percentage of all recorded passes	69.5%	19.9%	2.9%	1.9%	0.6%	4.7%	0.2%	0.2%	100%

3.5 More detailed survey results and notes are presented in Annex 5 and Annex 6. Annex 5 quantifies each transect as an overall activity score. All transects were assessed as either recording 'moderate' or 'low' activity levels as follows:

- Transect 1 – spring and summer as 'moderate'. Autumn as 'low'.

- Transect 2 – all visits recorded as 'low'.
- Transect 3 – spring as 'low'. Summer and autumn as 'moderate'.
- Transect 4 – spring as 'low'. Summer and autumn as 'moderate'.
- Transect 5 – all visits recorded as 'moderate'.

3.6 Table 3 below provides a brief one-line summary of surveyor observations from each transect survey visit.

Table 3 Summary of transect bat activity observations:

Date of survey visit	Recorded bat assemblage across all transects	Bat species recorded per transect
15/06/2023	Common pipistrelle, soprano pipistrelle, *Myotis* species, noctule, serotine, brown long-eared	Transect 3: Common pipistrelle, soprano pipistrelle, serotine, brown long-eared Transect 4: Common pipistrelle, noctule Transect 5: Common pipistrelle, soprano pipistrelle, *Myotis* species
22/06/2023	Common pipistrelle, soprano pipistrelle, noctule, serotine, brown long-eared, *Myotis* species.	Transect 1: Common pipistrelle, soprano pipistrelle, noctule, Myotis species. Transect 2: Common pipistrelle, soprano pipistrelle, noctule, serotine, brown long-eared, *Myotis* species.
03/08/2023	Common pipistrelle, soprano pipistrelle, serotine, brown long-eared, *Myotis* species, Daubentons bat, Natterer's bat.	Transect 1: Common pipistrelle, soprano pipistrelle, serotine, brown long-eared, *Myotis* species, Daubentons bat, Transect 2: Common pipistrelle, soprano pipistrelle, brown long-eared, *Myotis* species, , Natterer's bat.
09/08/2023	Common pipistrelle, soprano pipistrelle, noctule, serotine, brown long-eared.	Transect 3: Common pipistrelle, soprano pipistrelle, serotine, brown long-eared. Transect 4: Common pipistrelle, soprano pipistrelle, brown long-eared. Transect 5: Common pipistrelle, soprano pipistrelle, noctule.
13/09/2023	Common pipistrelle, soprano pipistrelle, noctule, brown long-eared, Myotis species, Natterer's bat.	Transect 1: Common pipistrelle, soprano pipistrelle, noctule, Myotis species. Transect 2: Common pipistrelle, soprano pipistrelle, brown long-eared, Myotis species, Natterer's bat.

Date of survey visit	Recorded bat assemblage across all transects	Bat species recorded per transect
27/09/2023	Common pipistrelle, soprano pipistrelle, noctule, *Myotis* species, Daubenton's bat	Transect 3: Common pipistrelle, soprano pipistrelle, Myotis species. Transect 4: Common pipistrelle, soprano pipistrelle. Transect 5: Common pipistrelle, soprano pipistrelle, noctule, Myotis species.

3.7 Bats were recorded on all survey visits, with a minimum of two species being recorded on a transect (Transect 4, 27.09.23) and a likely maximum of six species recorded on a single transect (Transect 2, 22.06.23)

3.8 Common pipistrelle was recorded on almost all surveys with soprano pipistrelle being the second most encountered species. Myotis species were frequently recorded, with the two identified species (Daubenton's and Natterer's bat) potentially forming a proportion of the other activity recorded as unidentified Myotis bat. Brown long eared bat was present on almost half transect surveys but the number of passes recorded was generally low. Noctule and serotine were recorded less frequently than brown long-eared but with a higher number of passes.

3.9 In addition to the species assemblage, number of passes and relative activity levels recorded, a number of surveyor observations were also made. This includes information which is not readily captured by the tables above (and charts below) and includes which areas within a transect bats are utilising and information recorded from visual sightings (habitat use, flight height, direction etc). In particular common pipistrelle, soprano pipistrelle, Myotis species, noctule and brown long-eared bats were recorded using the river course and hedgerow margins across the Site for foraging and commuting. Extended periods of continuous foraging pipistrelle were recorded, sometimes with social calls and occasionally being confirmed as being from more than one bat as a result of visual sightings.

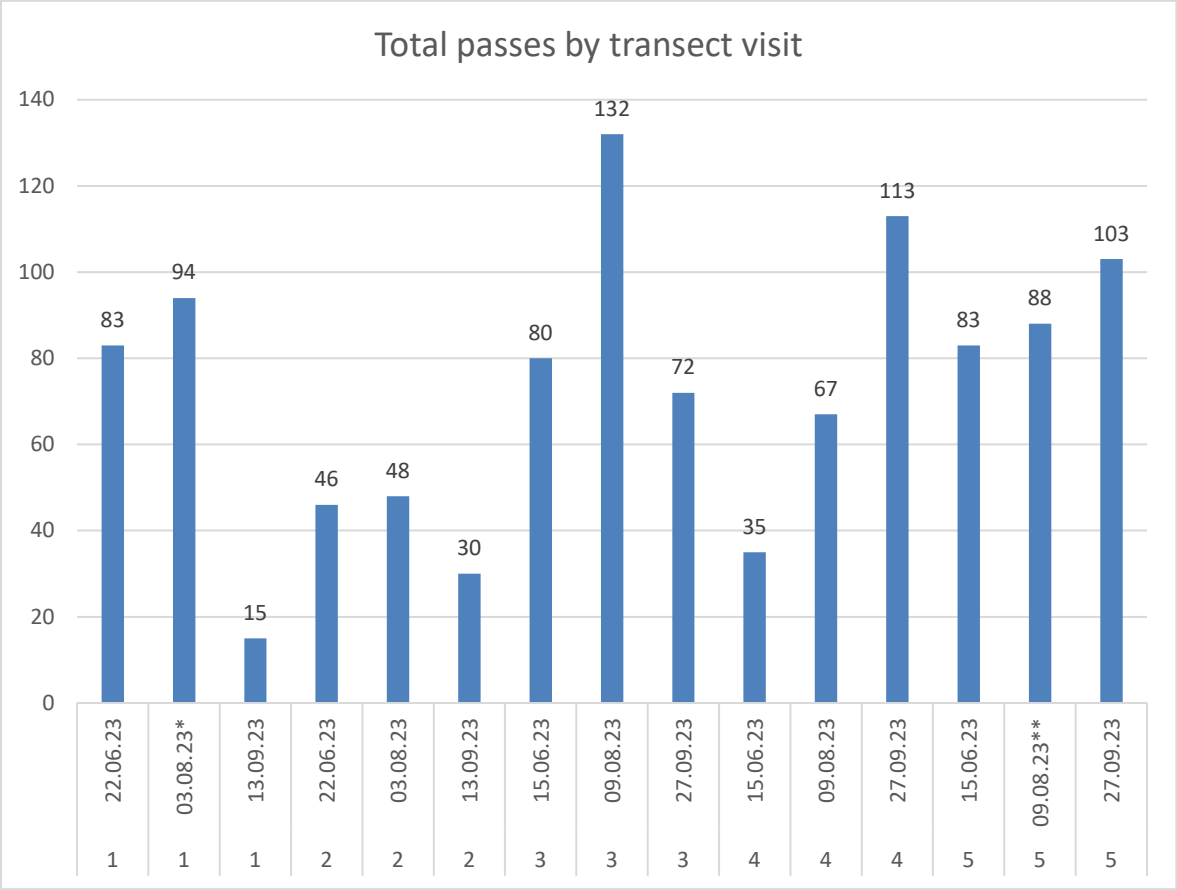
3.10 Tables 5 to 9 provide a detailed summary of the activity survey results for each transect route. Activity levels have been provided in accordance with the descriptive criteria supplied in method Section 3.

3.11 Note that a partial recorder failure on Transect 1 (03.08.23*) and Transect 5 (09.08.23**) occurred and the interpretation of total number of passes differs to that on other transects, with both likely being underestimates of total passes. The number of passes recorded during these transects is presented in these graphs but differences in recording length or interpretation are accounted for within evaluation.

3.12 Further detailed results of the activity transect surveys are provided in Annex 5 (species present and passes data) and Annex 6 (observation data).

3.13 Summary graphs from the data provided in Annex 5 are provided below (Figure 1) to provide an illustration on the relative activity levels recording during transects.

Figure 1 Chart showing total recorded transect passes by location and date:



3.14 Figure 1 shows total passes recorded during each survey. Each transect is treated as broadly comparable as each transect was broadly similar in terms of duration (i.e., passes recorded per hour), noting Transect 1 (03.08.23*) and Transect 5 (09.08.23**) are likely underestimates.

3.15 Key observations from Figure 1 show:

- Transect 3: August and Transect 4 September have the overall highest recorded activity levels, though no transect has activity levels in the region of 'high' or above.
- The remaining highest activity levels occur on the following surveys (i.e., the 81st-100th percentiles) which were all classed as 'moderate' activity:

a. Transect 3: 09.08.23

b. Transect 4: 27.09.23

c. Transect 5: 27.09.23

d. Transect 1: 03.08.23 also approaches the 81st percentile and as an underestimate would potentially be included in the above.

- Transects 1 and 2 have generally lower activity levels, even accounting for likely underestimates on Transect 2: 03.08.23)

- Lowest activity levels occur on the following survey visits (i.e., the 0-20th percentiles) and constitute 'low' activity:

e. Transect 1: 13.09.23

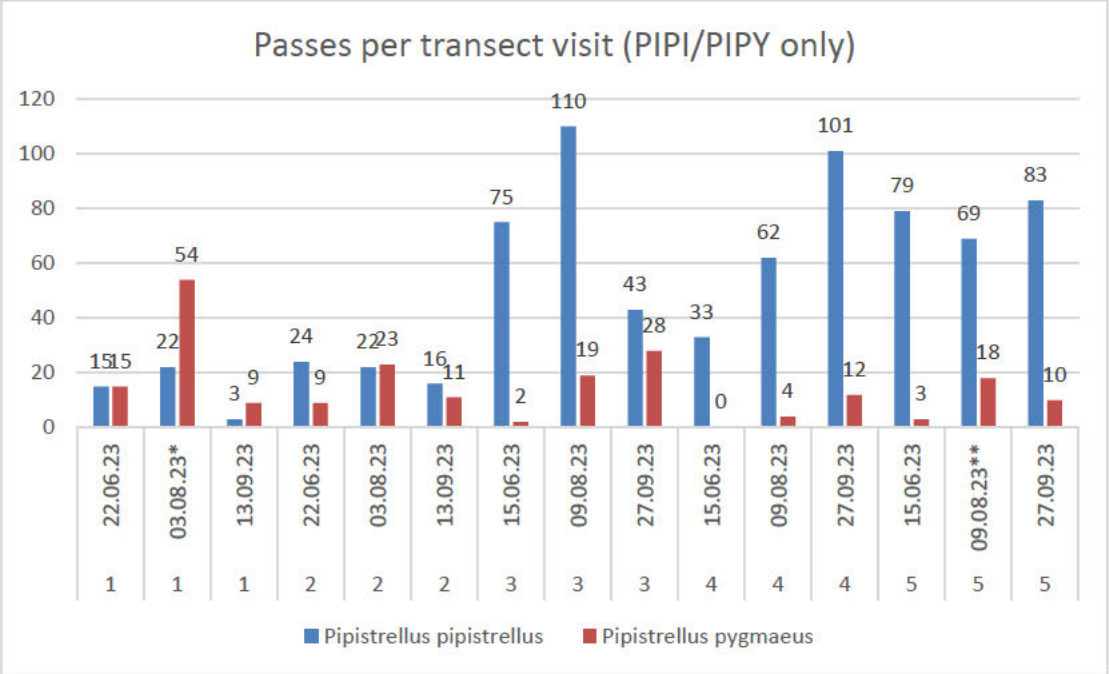
f. Transect 2: 13.09.23

g. Transect 4: 15.06.23

PASSES BY SPECIES

3.16 The passes recorded during each transect are shown by species in the following charts. Common and soprano pipistrelle represent the majority of all recorded passes and are shown in Figure 2.

Figure 2 Chart showing recorded passes by species by location and date (pipistrelle only)



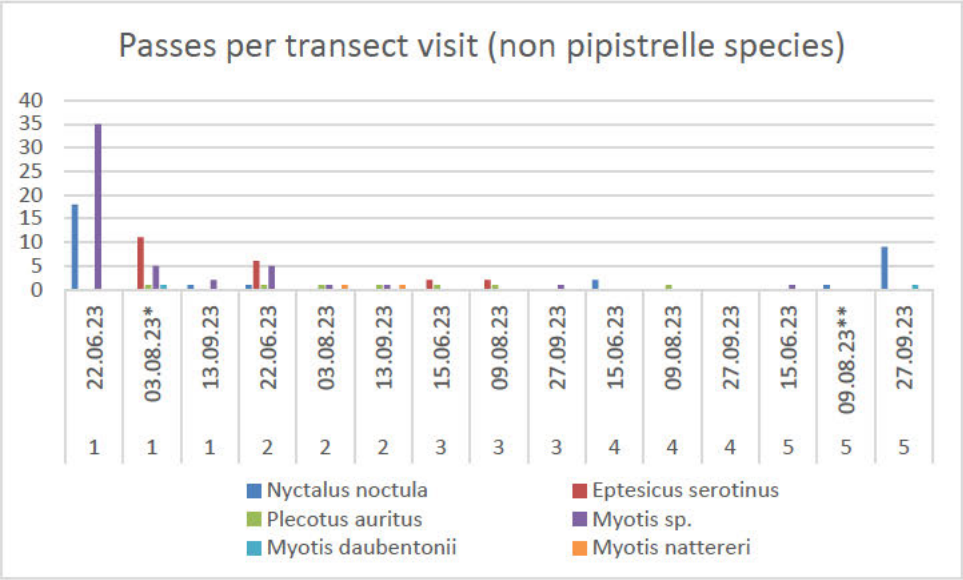
3.17 Broadly, common pipistrelle is the most frequently recorded species across all transects with Transects 3, 4 and 5 appearing to show highest activity levels by this species. The largest peaks occur during Transect 3: August and Transect 4: September but common pipistrelle passes are consistently high on these three transects.

3.18 Soprano pipistrelle is notably correlated to Transect 1 with some other smaller peaks occurring elsewhere (i.e., Transect 3: September and Transect 2: August). Recorded passes are generally much lower than common pipistrelle throughout the remainder of the transects, with some exceptions of Transect 2 in August and September and Transect 3 in September.

3.19 Trends for the two pipistrelle species generally follow those for total combined passes (as these two species comprise the majority of the total passes, approximately 90%) though noting the Transect 1 peak is reduced in comparison (i.e., being overall similar to Transect 4 and 5). However, Transect 1 is a notable

exception, where other species (Myotis and to a lesser extent serotine) comprise the majority of passes on this transect.

Figure 3 Chart showing recorded passes by species by location and date (remaining species)



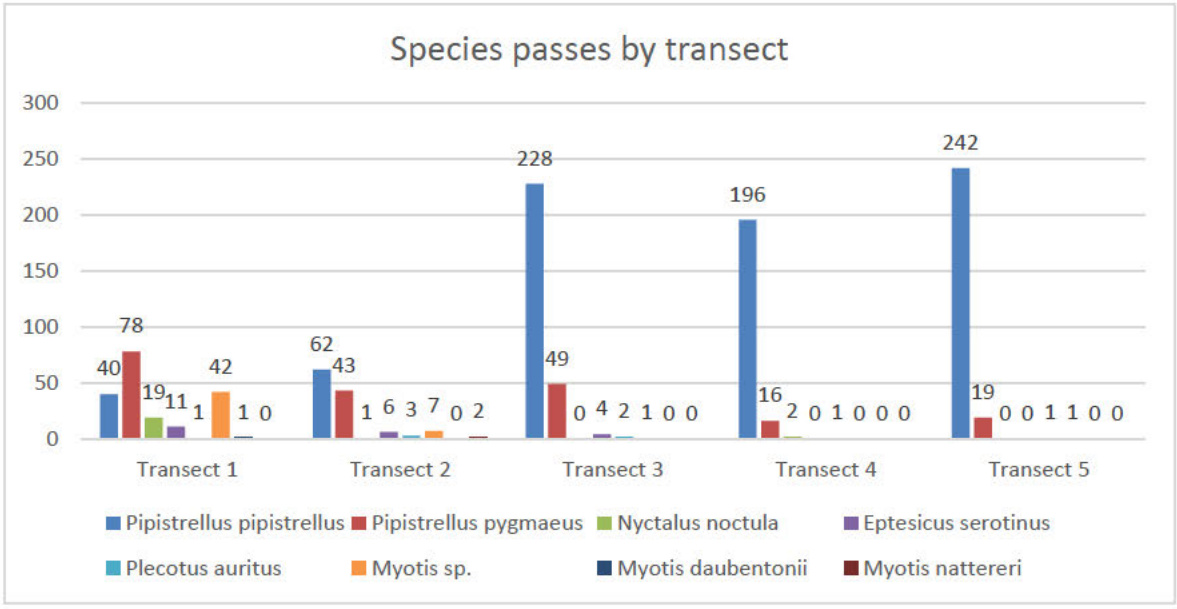
3.20 Myotis are the most frequently recorded species (especially when an aggregate total of all Myotis (sp.) bats recorded is applied) after pipistrelle, with a notable peak within Transect 1 in June with occasional recording of five passes or less on other transects

3.21 Noctule has a notable peak within Transect 1 in June and on Transect 5 in September, otherwise present as one or two passes on a few other surveys. Serotine has a notable peak in Transect 1: August and on Transect 2: June, otherwise serotine is only present on Transect 3 in June and August as one or two passes. Brown long-eared bat is limited to one or a few passes per visit, generally on Transects 1, 2 and 3.

PASSES BY LOCATION (TRANSECT)

3.22 Figure 4 below shows the results for each transect aggregated and shows similar trends to Figure 5 (total passes per transect).

Figure 4 Chart showing species passes by location (transect)



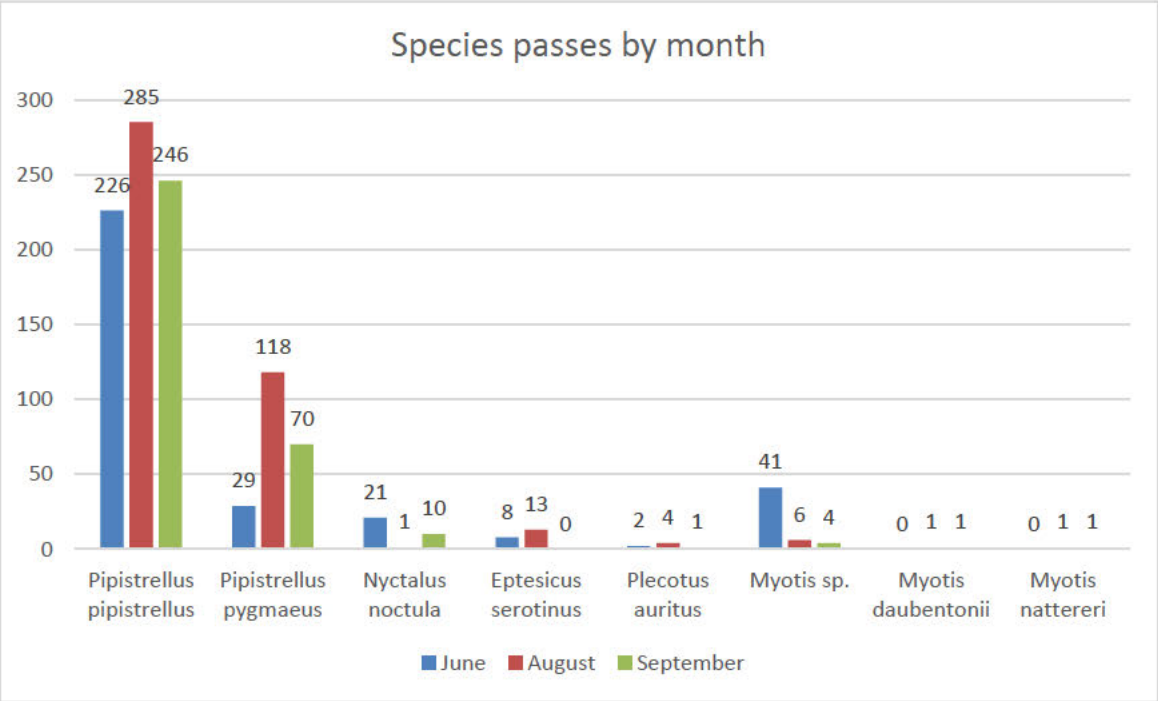
3.23 Common pipistrelle entails the vast majority of activity for Transects 3, 4 and 5 with few passes by other species. Transect 2 has lower overall activity levels with a more even division of activity between common and soprano pipistrelle with other species making up a greater proportion of the total passes. Transect 1 has a different species composition to the others with soprano pipistrelle and Myotis species comprising the majority of passes.

3.24 The likely underestimate of bat passes for Transect 1 (03.08.23*) and Transect 5 (09.08.23**) may result in Transect 1 having slightly higher overall activity levels than Transect 2, but Transect 5 would remain overall as the transect with the largest total number of passes.

PASSES BY MONTH

3.25 Figure 5 shows the activity levels of each species by month, for all transects combined.

Figure 5 Chart showing transect species passes by month



3.26 Common pipistrelle activity appears relatively consistent across the season, with the highest number of passes in August. Soprano pipistrelle activity is proportionally lower in June, compared to a peak in August and decreasing in September (though still more than double the number of passes in June).

3.27 For the rarer species with fewer passes, trends are less obvious though there is a notable peak of Myotis during June, while noctule activity is greater in June and September and serotine is present June and August but absent in September.

3.28 The likely underestimate of bat passes for Transect 1 (03.08.23*) and Transect 5 (09.08.23**) while both occurring in August is only likely to contribute further to August being the month having the most recorded passes, particularly for common and soprano pipistrelle.

STATIC DETECTORS

OVERALL ASSEMBLAGE

3.29 At least eight bat species were recorded across the Site by static detectors, including common pipistrelle, soprano pipistrelle, noctule, brown long-eared bat, serotine, Leisler's bat (*Nyctalus leisleri*), Nathusius' pipistrelle (*Pipistrellus nathusii*) and *Myotis* species (Daubenton's and Natterers confirmed, with the possibility of smaller numbers of passes of other species being present as unidentified *Myotis* species).

3.30 The vast majority of passes (approximately 98.70% of all static data) were from common and soprano pipistrelle (15,820 passes in total).

3.31 The remaining recorded passes comprised Myotis species as the next most frequent species group (over 152 (0.95% of all calls) and appeared to be mainly attributed to Daubenton's bats from sampling review). The remaining species passes comprised very few passes, with twenty or less passes per species.

3.32 These passes are further quantified as pph for the Site as a whole in the Table 4 below, as well as pph for all species combined (overall bat pph) in Figure 6.

Table 4: Summary of static data by species, total passes and average passes per hour throughout combined survey period.

Key to Species: PIPI - common pipistrelle, PIPY - soprano pipistrelle, PINA - Nathusius' pipistrelle, NYNO - noctule, NYLE – Leisler's bat, EPSE – serotine, PLAU - brown long eared bat, MYSP (unknown Myotis species)

Activity measure	Time / Location	Species recorded & recorded passes								All species combined
		PIPI	PIPY	PINA	NYNO	NYLE	EPSE	PLAU	MYSP	
Total passes	All locations and dates	14212	1589	21	22	1	2	9	154	16029
Passes per hour (pph)		34.50	3.90	0.05	0.05	0.00	0.00	0.02	0.37	38.91
Percentage of total calls		88.66	10.03	0.13	0.14	0.01	0.01	0.06	0.96	100

RELATIVE ACTIVITY LEVELS

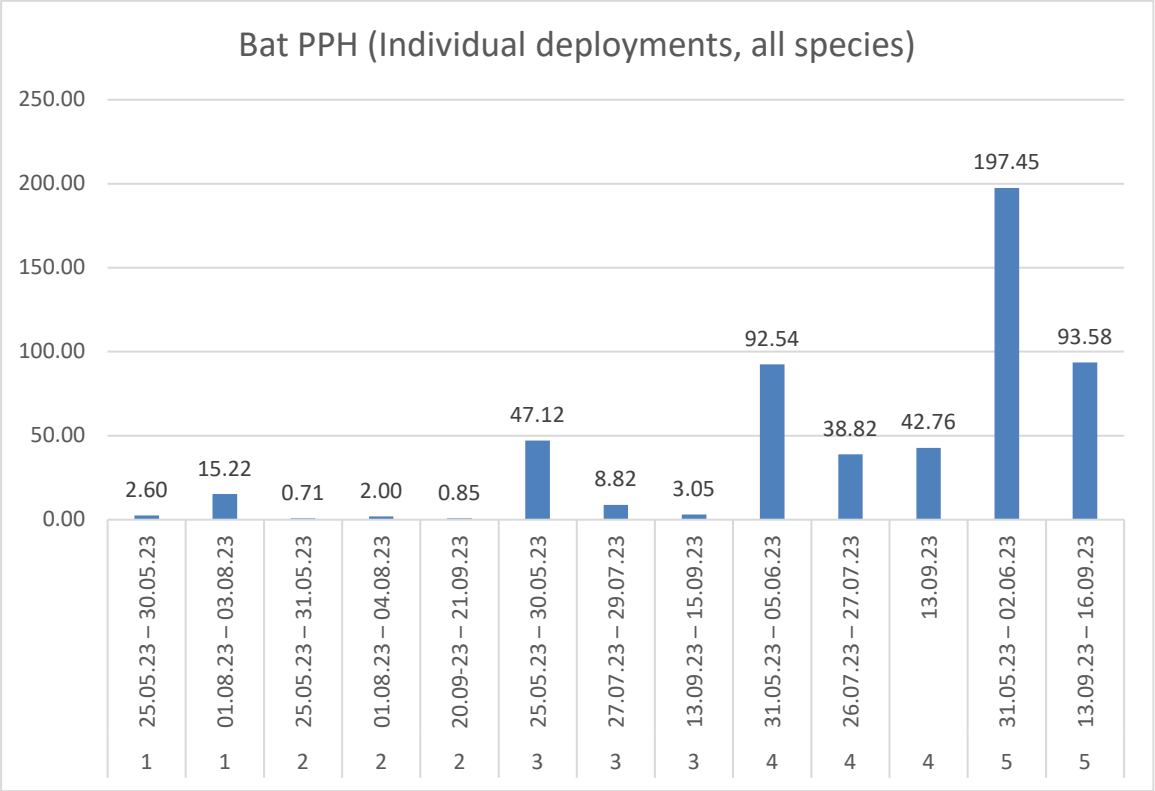
3.33 The results of static detector surveys with species recorded and relative passes per hour is summarised below for the overall Site, by month and by location with detailed results in Annex 4.

Overall (comparison of each deployment, for all species)

3.34 A summary table showing the pph values for all species combined is shown below for all individual deployments (i.e., a static detector at one location for a continuous

duration). This data is also provided in Annex 4, but the below allows a quick visual comparison of deployments.

Figure 6 Chart showing bat pph values (all species combined) for each static deployment



3.35 The highest activity (combined for all species) on-Site (80 to 100% percentiles, see Method section) as summarised above was recorded in descending order at the following locations:

- May / June at location 5;
- September at location 5; and
- May / June at location 5

3.36 The above had pph values approaching 100 or above. In particular May / June at location 5 had far greater pph than the remaining deployments (more than double the next largest).

3.37 The lowest activity levels (1 to 20% percentiles, see method Section) had pph values between 0 and 2 as summarised on Figure 6 was recorded in ascending order at the following locations:

- May / June at location 2;
- August at location 2; and
- September at location 2.

Temporal (by season)

3.38 To provide a summary understanding of the use of the Site by bats temporally (by month and season), the pph data has been merged for each location to provide a summary analysis of activity at each location.

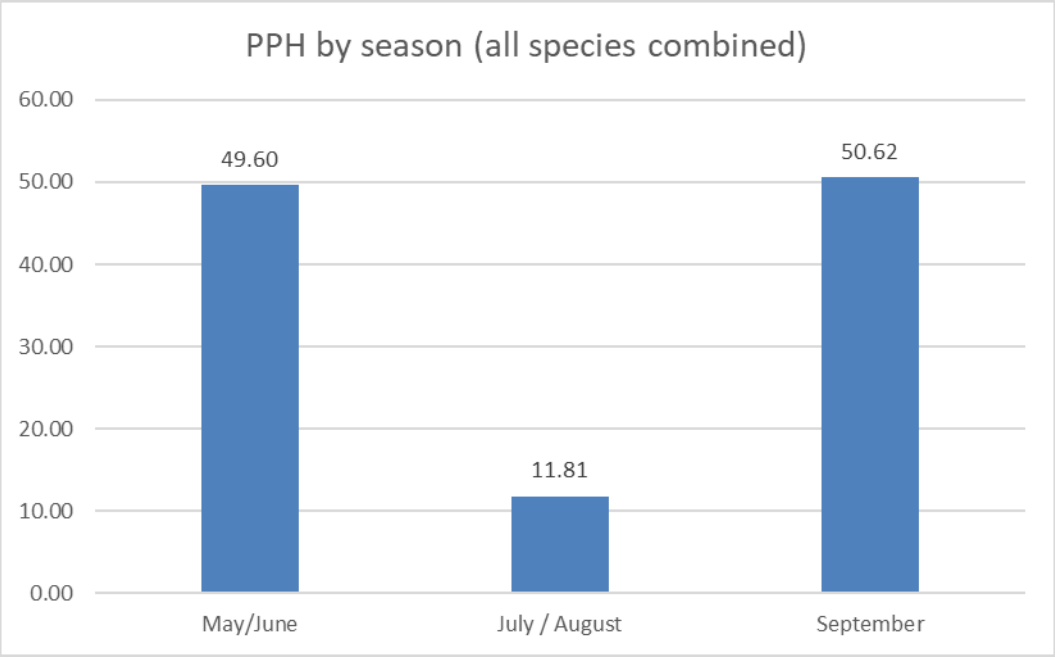
3.39 Charts are presented for the following data:

- Pph for all bat activity recorded at each location, and
- Pph for each location broken down by species.

3.40 Review of the seasonal datasets indicates a few limitations when data is divided this way, but is also of value when assessing the dataset as a whole. These limitations have been factored into the discussion but overall have not been assigned as significant due to the size of the overall dataset (each month had at least 95 recorded hours)

- July and August. Failed detector at location 5 and short recording periods at location 1 and 4 mean that a total number of recording nights and hours is lower than for the other seasons. The high activity recorded at location 5 during the other seasons likely results in pph values being slightly artificially lower due to omission of this location.
- September. Failed detector at location 1 and short recording periods at location 2 and 4 means that the number of recording nights is lower than other months. Recording hours are longer than July and August but this is an artifact of the longer September night periods.
- The recording failures where no nights were recorded (July and August location 5 and September location 1) result in a reduction in geographical coverage for these months.

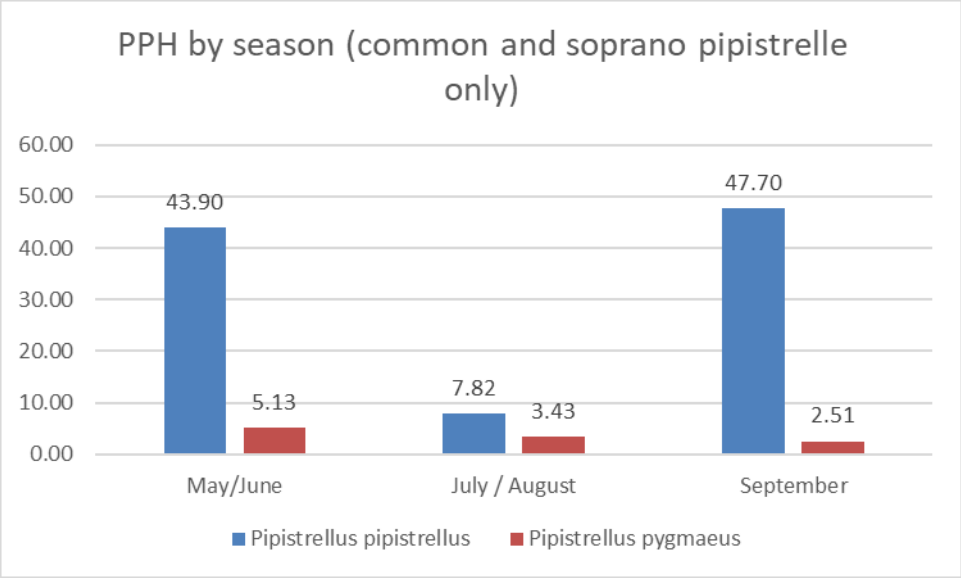
Figure 7 Chart showing bat pph values (all species combined) for each season



3.41 Overall, the recorded pph was similar during both the spring and autumn periods. The obvious reduction in summer period (July/August) may be attributable to the omission of location 5, though a summer reduction can be seen in overall pph chart (Figure 8) for a number of locations.

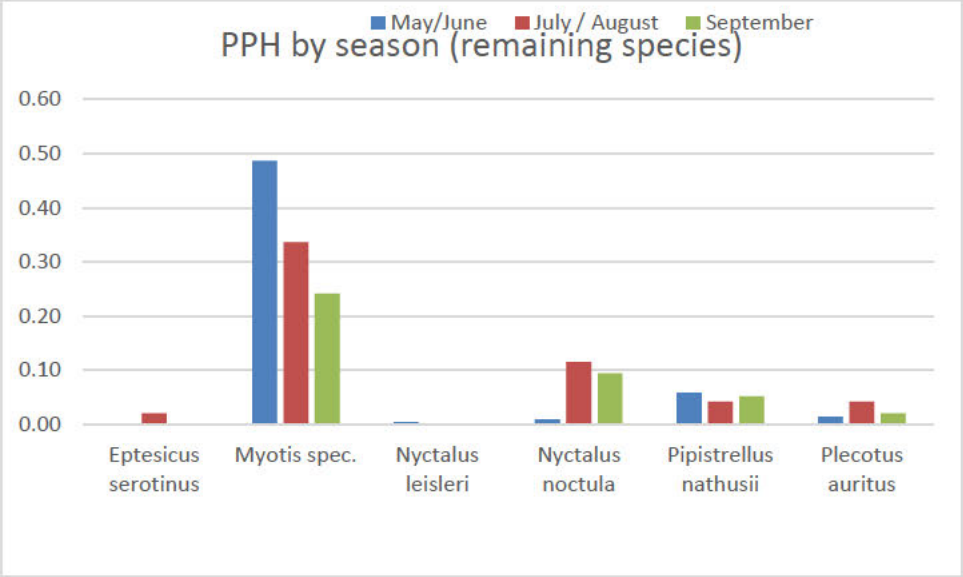
3.42 The seasonal data is further broken down by species below. Figure 8 shows the seasonal trend for pipistrelle. Common pipistrelle broadly follows the overall seasonal trend (to be expected, as this species makes up the majority of the passes). Soprano pipistrelle however is more consistent and comprises a greater proportion of the summer passes.

Figure 8 Chart showing bat pph values (common and soprano pipistrelle) for each season



3.43 The monthly activity levels for the remaining species assemblage are shown in Figure 9.

Figure 9 Chart showing bat pph values (remaining species) for each season



3.44 Given the very small pph values (from very low number of passes recorded) combined with some limitations in the recording schedule, interpretation of trends for the remaining species is limited.

3.45 While several of the species are present in low numbers during all seasons, an apparent downward trend for Myotis throughout the course of the year is visible as the most frequent of the remaining species.

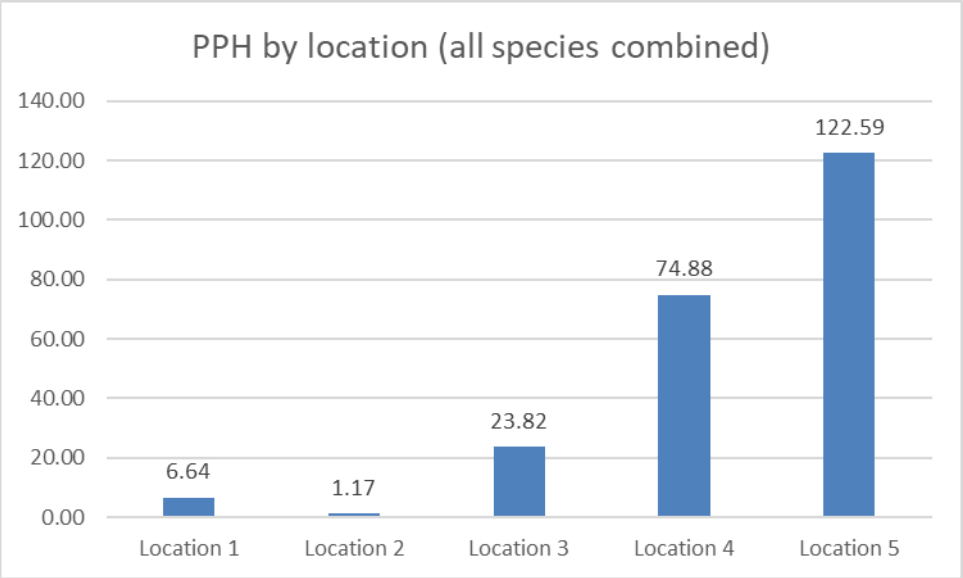
Spatial (by location)

3.46 To provide a summary understanding of the use of the Site by bats spatially, the pph data has been merged for each location to provide a summary analysis of activity at each location.

3.47 Charts are presented for the following data:

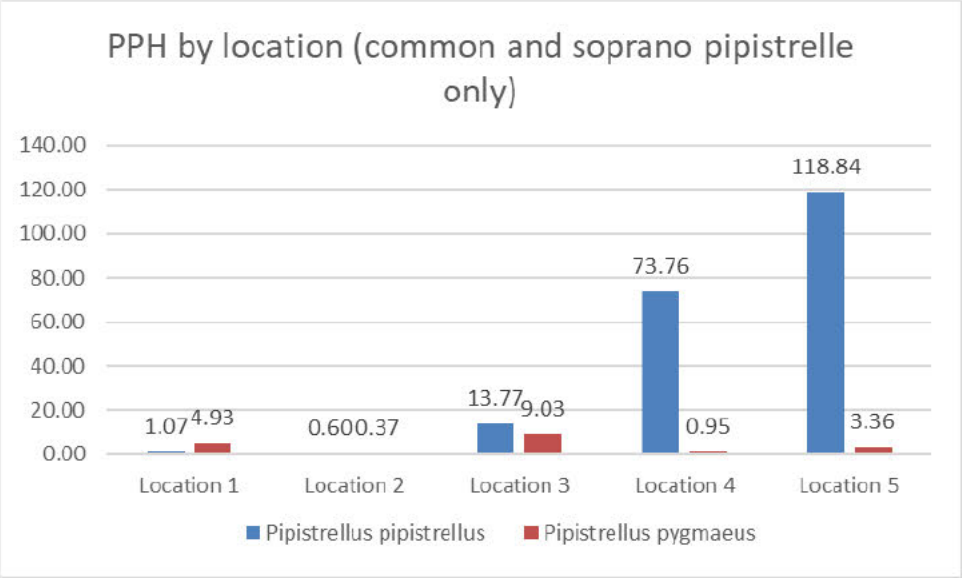
- Pph for all bat activity recorded at each location, and
- Pph for each location broken down by species.

Figure 10 Chart showing bat pph values (all species combined) for each location



3.48 Figure 10 shows that Location 5 can be clearly seen as having the highest overall pph value. Location 1 has one of the lowest values, despite being located in proximity to the East Stour River. Location 2 and 3 have similar middle arable field locations, however location 3 has a clearly higher pph.

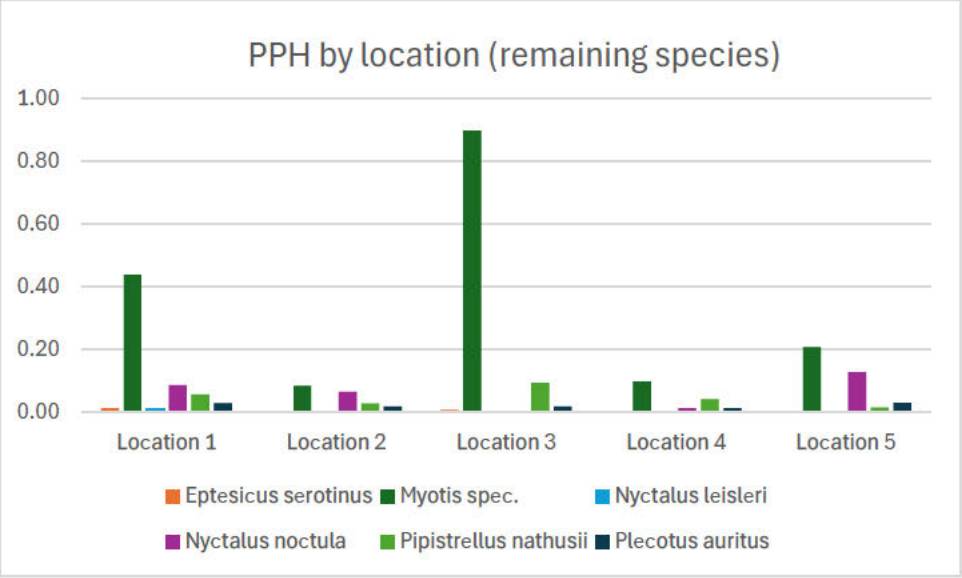
Figure 11 Chart showing bat pph values (common and soprano pipistrelle only) for each location



3.49 Figure 11 shows that common pipistrelle is the most abundant species at most locations, with the exception of location 1. Location 2 and 3 are also more evenly matched between the two species compared to the overall total pass numbers which are skewed toward common pipistrelle. Location 4 and 5 are almost entirely comprised of just common pipistrelle.

3.50 The East Stour River may be responsible for the soprano pipistrelle (a riparian associated species) pph being higher than common pipistrelle at location 1. Location 2 is also in proximity to a drainage ditch. Location 3 is situated away from watercourses but closer to the East Stour River (and drainage ditches) than location 4 or 5.

Figure 12 Chart showing bat pph values (remaining species) for each location



3.51 The remaining species by location (as shown on Figure 12) are generally attributable to low pph values, which in combination with limitations in the recording schedule makes trend interpretation difficult. Some species appear to occur across the Site in several locations but at very low pph values (i.e. noctule, Nathusius pipistrelle and brown long-eared. Species that only occur at one or two locations (i.e. serotine and Leisler's) are generally recorded as a few passes.

3.52 The distribution of Myotis species is correlated primarily with location 1 and location 3. Location 1 may be due to the proximity of the East Stour River for riparian species such as Daubenton's bat but the location 3 correlation is less immediately obvious. Both location pph's are still 'very low', being less than one pass per hour.

4. EVALUATION AND RECOMMENDATIONS

4.1 An evaluation of the survey results is provided below in terms of the recorded species diversity (assemblage), distribution across Site, relative activity levels recorded and overall importance of the Site.

4.2 **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033]and the **Outline LEMP (Doc Ref. 7.10(B))** provides details of avoidance, mitigation, compensation and enhancement measures relating to bats.

ASSEMBLAGE

4.3 At least eight bat species were recorded across the Site; common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, serotine, noctule, Leisler's, brown long-eared bat and Myotis species (Daubenton's and Natterers confirmed with the possibility of smaller numbers of passes of other species being present as unidentified Myotis species).

4.4 The assemblage was predominately comprised of common pipistrelle activity, with soprano pipistrelle activity also well represented. Myotis was the next most frequently recorded species group but as a much lower proportion of the overall passes (under 1% for static detectors). All the remaining species appeared to be using the Site at 'very low' levels or as only individual recorded passes.

4.5 The assemblage is representative of the mix of habitats present within the Site including watercourse and woodland associated species and is similar to that recorded during previous bat surveys during 2020 to 2022 (Appendix 9.5h **of ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2**) [APP-090].

HABITAT AND DISTRIBUTION

4.6 The network of local woodlands adjacent to Site, linked by hedgerows within a mixed pasture, arable and woodland wider landscape mosaic, is overall of good quality foraging and commuting habitat for bats. The arable field expanses however constitute the majority of the Site and are of limited value for foraging, with the best commuting and foraging habitats limited in distribution to field boundaries, riparian corridors and woodland blocks.

4.7 Woodland areas tended to correlate to the highest recorded levels of bat activity (pph for all species combined) with arable fields generally being low, similar to the results from the 2020 to 2022 surveys. However, some unusual results were recorded from adjacent to the East Stour River, with lower activity levels recorded than what might be expected from this area of riparian habitat.

4.8 Location 5 has the highest overall pph value, which is likely attributable to its location on a woodland copse edge even though this is bordered by a large arable field. Location 1 has surprisingly one of the lowest overall pph, despite being located in proximity to the East Stour River.

4.9 Location 2 and 3 have similar pph values even though location 3 is surrounded by a large arable expanse while location 2 is located near to a tree belt and drainage ditch.

4.10 Location 4 is situated along a pasture field edge to the south of the Bank Farm farmyard building complex. A defunct hedgerow and tree line is present here, however the overall pph values are higher than Location 1 along the East Stour River.

4.11 The correlation between species and habitats is less distinct for some habitats and species than previously recorded during 2020 to 2020 (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2**) [APP-090].

4.12 Riparian habitats in particular, such as those present at static detector location 1 (East Stour River) do retain their correlation for riparian associated species such as soprano pipistrelle and Myotis, however, other locations across the Site record higher activity levels both for these species and the overall assemblage. Transect 1 which included a section of the East Stour River did however include the largest proportion of Myotis calls of all the transects.

4.13 The highest activity levels recorded at location 5 adjacent to a woodland block in the southwest of the Site, is similar to the findings during 2020 and 2022, with most of this activity attributable to common pipistrelle.

4.14 The rarest species to be recorded within the Site was Nathusius' pipistrelle, only recorded by static detectors. Nathusius' pipistrelle was recorded across all locations and seasons, although only as individual or a few passes on each static deployment.

RELATIVE ACTIVITY

4.15 While the number of bats utilising a Site cannot be quantified (as stated within the Section 3 Method) an indication of relative abundance is achievable from review of the activity levels (passes per hour), from static detector data and frequency of species encountered during transect surveys.

4.16 Similar to results from 2020 and 2022, it was noted that some periods of transect survey and static detector deployment recorded very few bat passes, with some correlation attributable to areas associated with arable fields.

4.17 Overall, the static detector pph for the Site for all combined species was approximately 39 pph and assessed as 'moderate'. There is however large variation within this number, especially when reviewed by location and species. Transects recorded similar levels of either 'moderate' or 'low'.

4.18 Location 5 was the only location to exceed 100 passes per hour (i.e. 'high' activity) during its May/June deployment, although both location 5 in September and location 4 almost reached this threshold. The remaining recorded deployments for location 5 and the May/June location 4 deployment returned pph values of around 40 (i.e. moderate activity) with all other locations returning pph values below 25 of either 'low' or 'very low'.

4.19 Activity from both transects and static detectors identified common pipistrelle and soprano pipistrelle as being the most frequently recorded species within the Site. These two species comprised approximately 69.5% and 19.9% for the transect passes and 87% and 10% of the static data respectively. Variations occur by location and season, in particular the correlation of soprano pipistrelle with static location 1 and transect 1 (both in proximity to the East Stour River).

4.20 Myotis species were the next most frequently recorded species during both the static and transect surveys. While comprising less than 1% of all static passes, Myotis species did comprise approximately 5% of all transect passes and are so relatively well represented for a rarer species.

4.21 The remaining species are represented in the static data as only a few passes and each species generally as less than 0.1% of all calls. Some species are better represented within the transect data, though still infrequently recorded. Noctule and serotine are the most notable example and comprise 2.9% and 1.9% of all recorded transect passes in comparison to less than 0.1% each of the static data.

EVALUATION

4.22 A brief description of the species recorded in a county and national context is provided below.

4.23 Common and soprano pipistrelle comprise the majority of the recorded bat activity and represent the majority of the use of the Site by bats. These species are assessed as common both at county level and nationally.

- Common pipistrelle is described as the most abundant species along with soprano pipistrelle within Kent (Kent Bat Group website, accessed 09/01/25) with a mean estimated population for England around 1,870,000 (BCT, 2024).
- Soprano pipistrelle is described as the most abundant species along with common pipistrelle in Kent (Kent Bat Group website, accessed 04/05/23 with a mean estimated population for England around 2,980,000 (BCT, 2024).

4.24 Myotis species are the next most frequently recorded species group.

- Natterer's bat is described in Kent as 'widespread' (Kent Bat Group website, accessed 09/01/25) with a mean estimated population for England around 321,000 (BCT, 2024).
- Daubenton's bat is described in Kent as ‘recorded foraging widely on lakes and rivers’ (Kent Bat Group website, accessed 09/01/25), with a mean estimated population for England around 682,000 (BCT, 2024).

4.25 The relative conservation importance of the remaining species (recording limited to occasional passes) is summarised as follows:

- Noctule distribution or frequency is not described for Kent (Kent Bat Group website, accessed 09/01/25), with a mean national estimated population of 565,000 (BCT, 2024).

- Serotine distribution or frequency is not described for Kent (Kent Bat Group website, accessed 09/01/25), with a mean national estimated population of 136,000 for Great Britain (BCT, 2024). Insufficient data is available for an accurate estimate of population for England or within the county.
- Leisler's bat is described as 'rare in east Kent' but known to occur in greater numbers elsewhere in the county (Kent Bat Group website, accessed 09/01/25). Insufficient data available for an accurate estimate of population nationally or within the county (BCT, 2024).
- Brown long-eared bat is described as widespread within Kent (Kent Bat Group website, accessed 09/01/25) with a mean estimated population for England around 607,000 (BCT, 2024).
- Nathusius' pipistrelle distribution or frequency is not described for Kent (Kent Bat Group website, accessed 09/01/25) but rare and widespread throughout Great Britain with insufficient data available for an accurate estimate of population nationally or within the county (BCT, 2024).

4.26 The range of species reflects the size of the Site, mix of habitats present (including woodland, watercourses and grassland) and is likely reflective of the wider similar landscape present beyond the Site across the district. The range of species is also similar to that recorded during 2020 and 2022.

4.27 The surveys recorded mostly comprised common bat species (particularly common and soprano pipistrelle) that are widespread in the county (and UK) and would be expected to be found in similar habitats elsewhere in the county.

4.28 The relatively large proportion of Myotis species appears in part to be associated with the riparian habitats of the East Stour River, as noted within the previous survey report (Appendix 9.5h of **ES Volume 4, Appendix 9.5: Baseline Survey Reports Appendices 9.5g-9.5n (Doc Ref. 5.2)** [APP-090], though high activity levels in the south of the Site were also recorded.

4.29 Noctule and serotine are infrequently recorded but may be occasionally commuting across the Site, based on the frequency of their recorded on the transect surveys. Brown long-eared are likely also under-recorded but do appear to be semi-regularly recorded.

4.30 Passes of the remaining uncommon and rarer species reflect the extensive survey effort and size of the Site and would be expected to be recorded, with none of these species being recorded as large number of passes or as a large proportion of the data set. The few passes recorded may be occasional commuting or migratory flights across the district.

4.31 Based on the range of bat species recorded at the Site and known to occur within the wider local area and taking into consideration the prevalence of similar habitat types across the wider districts and county, the Site is assessed as being of local importance for forging and commuting bats.

5. REFERENCES

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ANNEX 1: LEGISLATION AND PLANNING POLICY

5.1 The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended) afford legal protection to bats.

5.2 The specific legal protection afforded to bats can be found within the Sections and Schedules of the relevant legislation and relevant case law.

5.3 In general, any person and/or activity that: -

- Damages or destroys a breeding or resting place of bats. (This is sometimes referred to as the strict liability or absolute offence);
- Deliberately captures, injures or kills a bat/s;
- Deliberately disturbs bats, and in particular disturbance likely to impair animals ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance;
- Intentionally or recklessly disturbs a bat/s while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 1981 (as amended)); and
- Intentionally or recklessly obstructs access to any structure or place that bat / bats use for shelter or protection (Wildlife and Countryside Act 1981 (as amended)).

…may be guilty of an offence.

5.4 The legislation applies to bat roosts even when they are not occupied.

5.5 Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

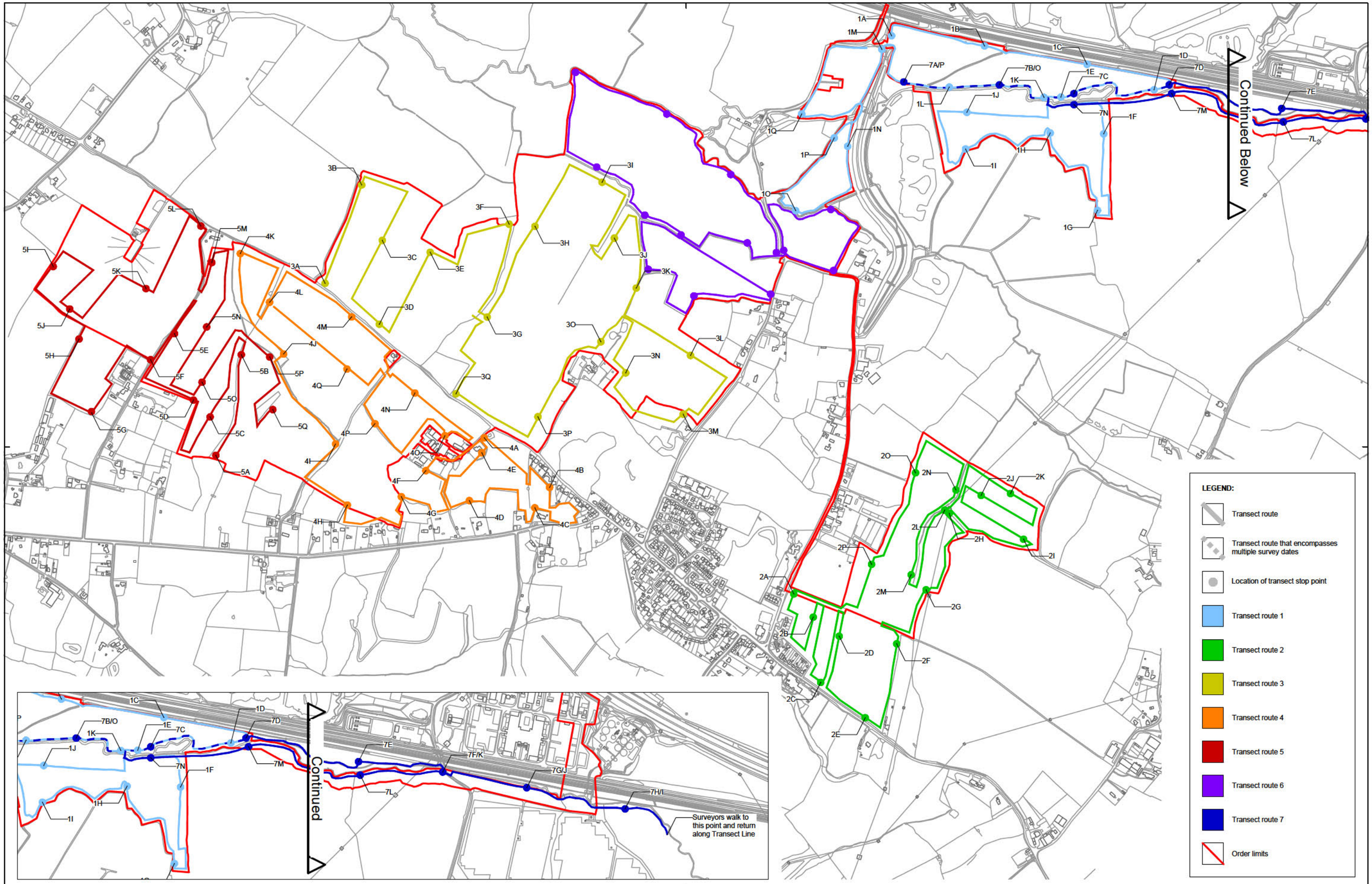
5.6 Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.

5.7 There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017, however these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.

5.8 The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to bats. These defences are unlikely to apply to construction related projects and do not apply to those acts included in the Conservation of Habitats and Species Regulations 2017. The Schedules of the Act provide further details of defences.

5.9 Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. Seven species of bat species are listed on Section 41 the NERC Act.

ANNEX 2: ACTIVITY TRANSECT ROUTES PLAN 2023



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client. EPL 001 Limited

project. Stonestreet Green Solar

Land North And West Of Aldington

Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0169 rev. P01

drawing title. Report Figure 1

Activity Transect Routes Plan

2023

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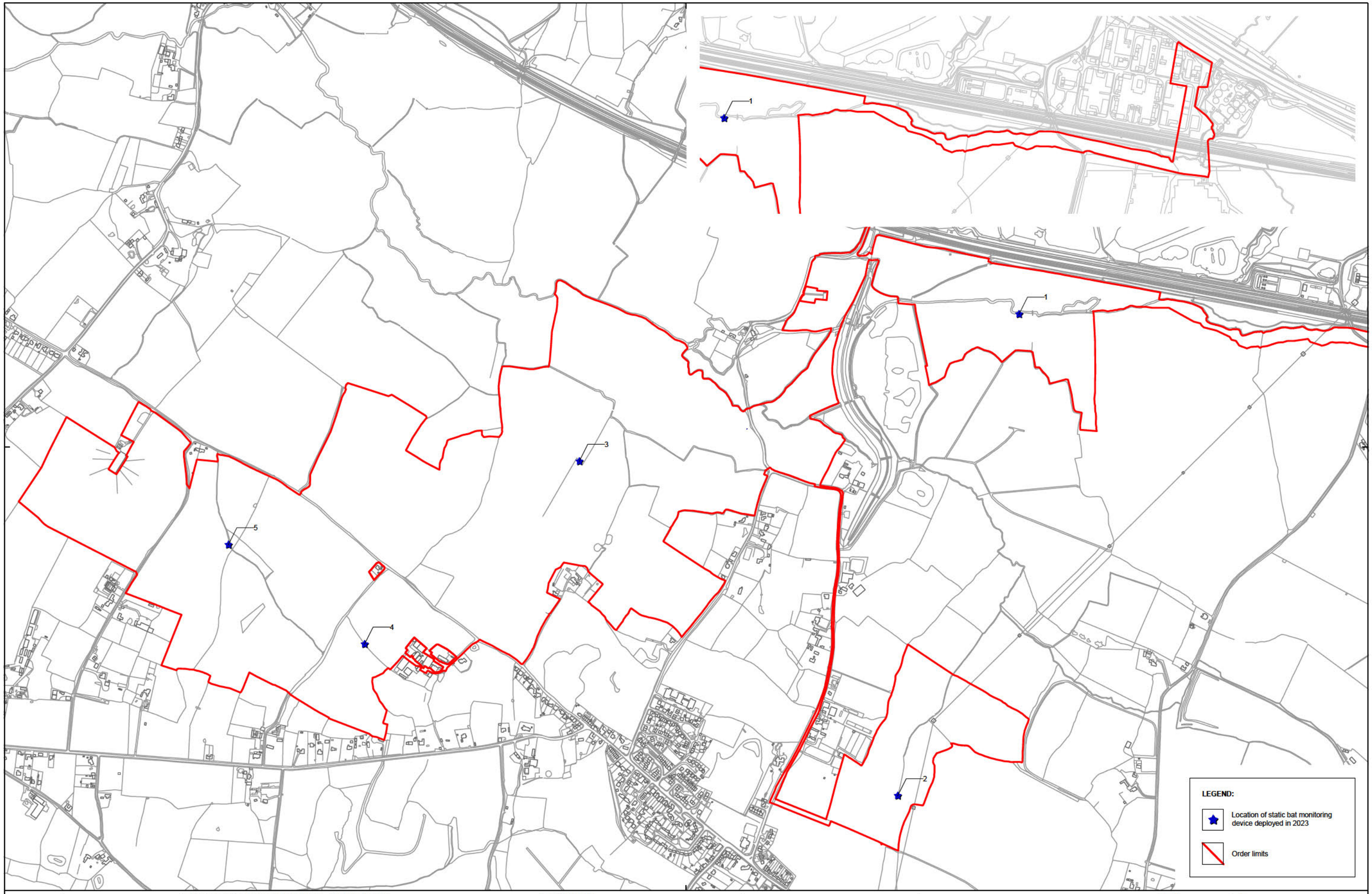
ANNEX 3: STATIC (REMOTE) DETECTOR LOCATIONS PLAN 2023



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rev.	rev. date	auth.	rev. note
P01	16/01/25	MW	Initial issue.

client. EPL 001 Limited
project.
Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0168 rev. P01
drawing title. suit. S4
Report Figure 2
Static Detector Locations Plan
2023

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ANNEX 4: STATIC (REMOTE) DETECTOR RESULTS

Detailed static detector survey, presented as passes per night per species and for all species combined

Key to Species: PIPI - common pipistrelle, PIPY - soprano pipistrelle, NYNO - noctule, EPSE – serotine, PLAU - brown long eared bat, MYSP (unknown Myotis species), MYDA - Daubenton's bat, MYNA - Natterer's bat

Location	Period	Average Night Length	Recorded Nights	Recorded Hours	Species total passes								Total Passes	Species passes per hour (pph)							Bat PPH (all species)	Percentile activity level (all species)
					EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		
1	25.05.23 – 30.05.23	7.75	6	46.5	0	0	0	8	1	1	2	44	121	0.00	0.17	0.02	0.02	0.04	0.95	1.38	0.02	2.60	25%
1	01.08.23 – 03.08.23	8.75	2.5	21.875	1	0	0	22	0	5	2	29	333	0.05	1.01	0.00	0.23	0.09	1.33	12.48	0.05	15.22	50%
1	20.09.23 – 22.09.23	11.75	0	0	NR	NR	NR	NR	NR	NR	NR	NR	0	-	-	-	-	-	-	-	-	N/A	N/A

Location	Period	Average Night Length	Recorded Nights	Recorded Hours	Species total passes								Total Passes	Species passes per hour (pph)								Bat PPH (all species)	Percentile activity level (all species)
					EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		
2	25.05.23 – 31.05.23	7.75	6	46.5	0	0	0	0	0	29	4	0	33	0.00	0.00	0.00	0.00	0.00	0.62	0.09	0.00	0.71	0%
2	01.08.23 – 04.08.23	8.75	4	35	0	2	0	6	2	28	30	2	70	0.00	0.06	0.00	0.17	0.06	0.80	0.86	0.06	2.00	17%
2	20.09-23 – 21.09.23	11.75	2	23.5	0	7	0	1	1	6	5	0	20	0.00	0.30	0.00	0.04	0.04	0.26	0.21	0.00	0.85	8%
3	25.05.23 – 30.05.23	7.75	6	46.5	0	90	0	0	9	1192	898	2	2191	0.00	1.94	0.00	0.00	0.19	25.63	19.31	0.04	47.12	75%
3	27.07.23 – 29.07.23	8.5	3	25.5	1	3	0	0	0	200	21	0	225	0.04	0.12	0.00	0.00	0.00	7.84	0.82	0.00	8.82	42%

Location	Period	Average Night Length	Recorded Nights	Recorded Hours	Species total passes								Total Passes	Species passes per hour (pph)							Bat PPH (all species)	Percentile activity level (all species)
					EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU	
3	13.09.23 – 15.09.23	11.25	3	33.75	0	2	0	0	1	64	36	0	103	0.00	0.06	0.00	0.00	0.03	1.90	1.07	0.00	3.05	33%
4	31.05.23 – 05.06.23	7.75	6	46.5	0	1	0	1	1	4242	58	0	4303	0.00	0.02	0.00	0.02	0.02	91.23	1.25	0.00	92.54	83%
4	26.07.23 – 27.07.23	8.5	1.5	12.75	0	5	0	0	0	487	2	1	495	0.00	0.39	0.00	0.00	0.00	38.20	0.16	0.08	38.82	58%
4	13.09.23	11.25	1	11.25	0	1	0	0	2	471	7	0	481	0.00	0.09	0.00	0.00	0.18	41.87	0.62	0.00	42.76	67%
5	31.05.23 – 02.06.23	7.75	2.25	17.4375	0	0	0	0	0	3424	19	0	3443	0.00	0.00	0.00	0.00	0.00	196.36	1.09	0.00	197.45	100%

Location	Period	Average Night Length	Recorded Nights	Recorded Hours	Species total passes								Total Passes	Species passes per hour (pph)								Bat PPH (all species)	Percentile activity level (all species)
					EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		EPSE	MYSP	NYLE	NYNO	PINA	PIPI	PIPY	PLAU		
5	26.07.23 – 01.08.23	8.75	0	0	NR	NR	NR	NR	NR	NR	NR	NR	0	-	-	-	-	-	-	-	-	N/A	N/A
5	13.09.23 – 16.09.23	11.25	4	45	0	12	0	8	1	3996	191	2	4211	0.00	0.27	0.00	0.18	0.02	88.80	4.24	0.04	93.58	92%

Summary of static detector weather conditions[1].

Date	Minimum temperature (°C)	Maximum Temperature (°C)	Average Minimum wind mph	Average Max. Wind mph	Nights with Rain*
25.05.24-31.05.24	5 (one night, remainder minimum 8 - 9)	17	6	19	31st - Light rain
01.06.24-05.06.24	8	19	9	17	No
26.07.24-29.07.24	10	23	5	16	26th – Light rain
01.08.24-05.08.24	10	23	5	18	1st and 5th - Light rain
13.09.24-21.09.24	11	23	4	24	17th and 20th - Light rain

*Rain defined as drizzle, light or heavy over a 6hr period as shown within historical weather data

[1] Includes review of static detector logs and historical weather data available at https://www.timeanddate.com/weather/@2656956/historic?

ANNEX 5: ACTIVITY TRANSECT SPECIES PRESENCE, PASSES AND RELATIVE ACTIVITY

Transect	Dates	Species recorded & number of passes									Relative activity (all species combined)	Percentile of all species combined
		PIPI	PIPY	NYNO	EPSE	PLAU	MYSP	MYDA	MYNA	Total passes		
1	22.06.23	15	15	18	0	0	35	0	0	83	Moderate	62%
	03.08.23	22	54	0	11	1	5	1	0	94	Moderate	77%
	13.09.23	3	9	1	0	0	2	0	0	15	Low	0%
2	22.06.23	24	9	1	6	1	5	0	0	58	Low	23%
	03.08.23*	22	23	0	0	1	1	0	1	46	Low*	31%
	13.09.22	16	11	0	0	1	1	0	1	30	Low	8%
3	15.06.23	75	2	0	2	1	0	0	0	80	Low	54%
	09.08.23	110	19	0	2	1	0	0	0	132	Moderate	100%
	27.09.23	43	28	0	0	0	2	0	0	72	Moderate	46%
4	15.06.23	33	0	2	0	0	0	0	0	35	Low	15%
	09.08.23	62	4	0	0	1	0	0	0	67	Moderate	38%
	27.09.23	101	12	0	0	0	0	0	0	113	Moderate	92%
5	15.06.23	79	3	0	0	0	1	0	0	83	Moderate	62%
	09.08.23**	69**	18**	1**	0	0	0	0	00	88	Moderate**	N/A
	27.09.23	83	10	9	0		0	1	0	103	Moderate	84%

*primary recorder failure at 22:51, so an approximate 2 hour duration is used for relative activity and percentile analysis. Passes beyond this point are taken from surveyor forms. described within Annex 6 and used for assemblage analysis but not for relative activity.

**Data was corrupted for Transect 5 on 09.08.23. Passes on this survey are taken from surveyor forms. described within Annex 6 and used for assemblage analysis but not for relative activity.

ANNEX 6: ACTIVITY TRANSECT RESULTS

Survey summary of activity transect on 22/06/2023 - Transect 1.

Time	Species	Location of bat(s)	Activity
21:36-21:37	Noctule	Point C	Several passes of noctule commencing at 21:36.
21:41-21:42	Noctule	Walk to point D	Two passes of noctule
21:46	Soprano pipistrelle	Walk to point D	Single pass of soprano pipistrelle within noctule activity
21:49 - 21:50	Noctule	Point D	Several passes of noctule
21:51	Common pipistrelle	Point D	Pass of common pipistrelle
22:00-22:03	Common pipistrelle	Walk to point F	Seen flying along stream, plus two other passes heard not seen with foraging
22:03-22:05	Soprano pipistrelle	Point F	Several foraging passes at short bursts of activity
22:09-22:13	Common pipistrelle	Walk to Point G Point G	
22:26	Common pipistrelle	Point H	
22:41-43	Common pipistrelle	Walk to J	
22:42	Soprano pipistrelle	Walk to J	Single pass
22:51	Myotis species	Walk to K	Single pass
22:54-55	Soprano pipistrelle	Walk to K	Several passes
22:55-22:59	Myotis species	Point K	Continuous activity
22:58-59	Common pipistrelle	Point K	A few passes within more abundant Myotis activity
23:06-23:11	Myotis species	Point L	Occasional passes
23:15-23:18	Common pipistrelle	Point M	Three passes
23:23-23:26	Common pipistrelle	Walk to N Point N	Occasional passes

Time	Species	Location of bat(s)	Activity
23:29-23:31	Common pipistrelle	Point N Walk to O	
23:39	Common pipistrelle	Point P	Single pass

Survey summary of activity transect on 03/08/2023 - Transect 1

Time	Species	Location of bat(s)	Activity
20:58-20:59	Soprano pipistrelle	Point O	Continuous activity
21:03-21:07	Soprano pipistrelle	Walk to N	
21:09	Soprano pipistrelle	Walk to M	Single pass
21:16-21:23	Soprano pipistrelle	Point M	Occasional passes
21:20	Common pipistrelle	Point M	Three passes
21:29	Daubenton's bat (Myotis species)	Point L	Single pass
21:40	Common pipistrelle	Point E	Single pass
21:45	Soprano pipistrelle	Walk to J	Single pass
21:49-21:54	Soprano pipistrelle	Walk to I	Occasional passes
21:56-21:59	Common pipistrelle	Walk to I Point I	Continuous activity
21:57	Soprano pipistrelle	Walk to I	Single pass
22:01-22:05	Serotine	Walk to H Point H	Continuous activity
22:07	Common pipistrelle	Point H	Single pass
22:09	Soprano pipistrelle	Point H	Single pass
22:11-22:13	Common pipistrelle	Walk to G	Continuous activity
22:12	Soprano pipistrelle	Walk to G	Single pass

Time	Species	Location of bat(s)	Activity
22:17-22:20	Common pipistrelle	Point G	Occasional passes
22:19	Myotis species	Point G	Single pass
22:33	Common pipistrelle	Point F	Two passes
22:41	Serotine	Point E	Two passes
22:42	Common pipistrelle	Point E	Single pass
22:44	Common pipistrelle	Point E	Single pass
22:50	Myotis species	Walk to D	Two passes
22:53	Soprano pipistrelle	Point D	Single pass
23:02	Brown long-eared bat	Walk to C	Single pass
23:10	Myotis species	Walk to B	Two passes
23:24	Common pipistrelle	Point A	Two passes

Survey summary of activity transect on 13/09/2023 - Transect 1

Time	Species	Location of bat(s)	Activity
20:04	Common pipistrelle	Walk to F	Single pass
20:18	Noctule	Point G	Single pass
20:26	Soprano pipistrelle	Point H	Single pass
20:41-43	Soprano pipistrelle	Walk to J	Constant activity, foraging
20:53	Soprano pipistrelle	Walk to K	Single pass
21:32	Common pipistrelle	Walk to Q	Single pass
21:43	Myotis species	Walk to P	Two passes

Survey summary of activity transects on 22/06/2023 - Transect 2.

Time	Species	Location of bat(s)	Activity
21:32-21:33	Noctule	Walk to C	Single pass
21:53	Soprano pipistrelle	Walk to 2E	
21:56	Noctule	Point E	
22:02	Soprano pipistrelle	Walk to F	
22:03	Myotis	Walk to F	Single pass
22:04-22:10	Common pipistrelle	Walk to F Point F	Continuous activity
22:10	Soprano pipistrelle	Walk to G	Three passes
22:13	Myotis species	Walk to G	Single pass
22:14	Brown long-eared bat	Walk to G	Single pass
22:18-22:24	Common pipistrelle	Point G Walk to H	Occasional passes
22:27-22:28	Myotis species	Point H	Several passes
22:45	Common pipistrelle	Point J	Several passes
22:54-55	Serotine	Walk to K Point K	Several passes
22:55	Soprano pipistrelle	Point K	Two passes
22:59-23:02	Common pipistrelle	Point K Walk to L	Several passes
23:15	Soprano pipistrelle	Point M	Single pass
23:15	Serotine	Point M	Single pass
23:17-19	Common pipistrelle	Point M	Two passes

Survey summary of activity transects on 03/08/2023 - Transect 2.

Time	Species	Location of bat(s)	Activity
21:07-12	Soprano pipistrelle	Walk to N Point N	Continuous activity, foraging around hedgerow and social calls
21:18	Common pipistrelle	Walk to M	Single pass
21:24	Common pipistrelle	Walk to L	Single pass
21:27-21:33	Soprano pipistrelle	Walk to L Point L	Occasional passes
21:36-21:38	Common pipistrelle	Walk to K	Continuous activity, two bats visually seen and foraging along hedgerow and field boundary
21:40	Soprano pipistrelle	Point K	Single pass
21:45	Soprano pipistrelle	Walk to J	Single pass
21:57	Natterers bat (Myotis species)	Walk to I	Single pass
22:10 - 22:14	Common pipistrelle	Point H	Several passes mixed with soprano pipistrelle
22:10-22:13	Soprano pipistrelle	Point H	Several passes mixed with common pipistrelle
22:16	Brown long-eared bat	Walk to G	Single pass
22:28	Common pipistrelle	Walk to F	Several passes
22:36	Common pipistrelle	Walk to E	Singe pass
22:43	Myotis species	Walk to D	Single pass
22:56	Common pipistrelle	Walk to C	Note recorder failure at 21:53 - passes beyond this point are from surveyor written records
23:05-23:07	Common pipistrelle	Walk to B	Several passes
23:18	Soprano pipistrelle	Walk to A	Single pass

Time	Species	Location of bat(s)	Activity
23:20 - 23:24	Soprano pipistrelle	Point A	Two passes

Survey summary of activity transect on 13/09/2023 - Transect 2

Time	Species	Location of bat(s)	Activity
19:53-19:54	Soprano pipistrelle	Walk to E	Several passes
20:01-20:02	Common pipistrelle	Walk to F	Two passes
20:15	Natterer's bat (Myotis species)	Point G	Single pass
20:16-20:17	Common pipistrelle	Point G	Two passes
20:18	Soprano pipistrelle	Point G	Single pass
20:31	Common pipistrelle	Walk to I	Single pass
20:55	Common pipistrelle	Point K	Single pass
20:55	Brown long-eared bat	Point K	Two passes
21:02	Soprano pipistrelle	Walk to L	Single pass
21:07-21:09	Common pipistrelle	Point L	Several passes
21:08	Soprano pipistrelle	Point L	Single pass
21:11	Soprano pipistrelle	Walk to M	Single pass
21:12	Brown long-eared bat	Walk to M	Single pass
21:17-21:18	Common pipistrelle	Walk to N	Two passes

Time	Species	Location of bat(s)	Activity
21:26	Soprano pipistrelle	Point N	Single pass
21:44	Myotis species	Walk to P	Single pass
21:50	Brown long-eared bat	Point P	Single pass
21:55-21:57	Common pipistrelle	Walk to A	Several passes

Survey summary of activity transect on 15/06/2023 - Transect 3

Time	Species	Location of bat(s)	Activity
22:07	Common pipistrelle	Point F	Single pass
22:16-22:18	Common pipistrelle	Point G	Constant activity, feeding buzzes and seen foraging over adjacent hedgerow
22:36	Common pipistrelle	Walk to J	Single pass
22:39	Common pipistrelle	Walk to J	Several passes
22:42	Common pipistrelle	Point J	Constant activity
22:44	Serotine	Point J	Two passes
22:45-22:51	Common pipistrelle	Walk to K	Constant activity
22:49	Soprano pipistrelle	Walk to K	Two passes
23:00	Common pipistrelle	Walk to L	Several passes
23:04-23:07	Common pipistrelle	Point L	Occasional passes
23:22	Common pipistrelle	Point N	Single pass
23:30	Common pipistrelle	Walk to O	Single pass

Time	Species	Location of bat(s)	Activity
23:35	Common pipistrelle	Point O	Single pass
23:35	Brown long-eared bat	Point O	Single pass

Survey summary of activity transect on 09/08/2023 - Transect 3

Time	Species	Location of bat(s)	Activity
20:56	Common pipistrelle	Point O	Single pass
20:58-20:59	Soprano pipistrelle	Walk to N	Three passes
21:01-21:03	Common pipistrelle	Walk to N	Constant activity
21:05	Common pipistrelle	Point N	Single pass
21:09-21:13	Common pipistrelle	Walk to M	Constant activity
21:12	Soprano pipistrelle	Walk to M	Single pass
21:16-21:18	Soprano pipistrelle	Walk to M	Two passes
21:24	Soprano pipistrelle	Point L	Single pass
21:31-21:52	Common pipistrelle	Walk to K Point K Walk to L Point J Walk to I	Frequent passes throughout this section of transect, occasional changes in frequency of passes but recorded at least once per minute and usually several passes per minute.
21:43	Soprano pipistrelle	Walk to J	Three passes
21:48	Brown long-eared bat	Point to J	Single pass
21:54	Soprano pipistrelle	Point I	Three passes
21:55	Common pipistrelle	Point I	Single pass

Time	Species	Location of bat(s)	Activity
22:00	Common pipistrelle	Walk to H	Common pipistrelle
22:17	Soprano pipistrelle	Point G	Single pass
22:19-22:20-	Common pipistrelle	Walk to F	Single pass
22:21	Serotine	Walk to F	Single pass
22:25	Common pipistrelle	Point F	Several passes
22:27:22:34	Soprano pipistrelle	Walk to F Point E	Occasional passes
22:45	Common pipistrelle	Point D	Single pass
22:46	Soprano pipistrelle	Point D	Single pass
23:05	Common pipistrelle	Point B	Single pass
23:12	Serotine	Walk to B	Single pass
23:20	Common pipistrelle	Point A	Single pass

Survey summary of activity transect on 27/09/2023 - Transect 3

Time	Species	Location of bat(s)	Activity
19:08	Common pipistrelle	Point O	Single pass
19:11-19:13	Soprano pipistrelle	Point O Walk to N	Constant activity
19:16	Soprano pipistrelle	Walk to N	Single pass
19:18-19:19	Common pipistrelle	Point N	Two passes
19:24-19:28	Soprano pipistrelle	Walk to M Point M	Frequent passes, includes social calls

Time	Species	Location of bat(s)	Activity
19:24-19:28	Common pipistrelle	Walk to M Point M	Frequent passes, similar regularity to soprano of approximately two to four passes per minute.
19:30	Myotis species	Point M	Single pass
19:30-19:33	Common pipistrelle	Point M Walk to L	Occasional passes
19:49-19:51	Common pipistrelle	Point K	Frequent passes
20:32	Soprano pipistrelle	Point G	Single pass
21:04	Common pipistrelle	Walk to C	Single pass

Survey summary of activity transect on 15/06/2023 - Transect 4

Time	Species	Location of bat(s)	Activity
21:33	Noctule	Point C	Quick pass (two bat logger files)
21:58-22:01	Common pipistrelle	Walk to F	Constant activity
22:03	Common pipistrelle	Point F	Two passes
23:10	Common pipistrelle	Walk to G	Constant activity
23:30	Common pipistrelle	Walk to I	Two passes
23:33-22:34	Common pipistrelle	Point I	Four passes
22:38	Common pipistrelle	Walk to J	Constant activity

Survey summary of activity transect on 09/08/2023 - Transect 4

Time	Species	Location of bat(s)	Activity
21:04	Unknown	Point N	Bat head not seen, flying east to west along transect route, suspected brown long -eared bat.
21:17-21:20	Common pipistrelle	Point M Walk to L	Occasional passes
21:30-21:31	Common pipistrelle	Walk to K	Three passes
21:38	Common pipistrelle	Point K	Soprano pipistrelle
21:45-21:46	Common pipistrelle	Walk to J	Two passes
21:48	Common pipistrelle	Point J	Single pass
21:50	Brown long-eared bat	Walk to I	Single pass
21:56-21:58	Common pipistrelle	Walk to I	Occasional passes
22:00	Common pipistrelle	Walk to H	Single pass
22:02	Common pipistrelle	Walk to H	Three passes
22:05-22:08	Common pipistrelle	Point H	Occasional passes
22:15-22:16	Common pipistrelle	Walk to F	Occasional passes
22:18-22:20	Common pipistrelle	Point F	Constant activity
22:31-22:34	Common pipistrelle	Walk to E	Occasional passes
22:33-22:34	Soprano pipistrelle	Walk to E	Three passes
22:43	Common pipistrelle	Walk to D	Single pass

Time	Species	Location of bat(s)	Activity
22:57	Common pipistrelle	Point C	Single pass
23:02	Common pipistrelle	Walk to B	Single pass
23:06-23:09	Common pipistrelle	Point B	Occasional passes

Survey summary of activity transect on 27/09/2023 - Transect 4

Time	Species	Location of bat(s)	Activity
19:14	Soprano pipistrelle	Walk to N	Single pass
19:16	Soprano pipistrelle	Walk to N	Single pass
19:16-19:17	Common pipistrelle	Walk to N	Three passes
19:29	Common pipistrelle	Point M	Single pass
19:38	Common pipistrelle	Point L	Single pass
19:42-19:45	Common pipistrelle	Point L Walk to K	Constant activity
20:01-20:04	Common pipistrelle	Point J Walk to I	Occasional passes mixed with soprano pipistrelle
20:01-20:03	Soprano pipistrelle	Point J Walk to I	Occasional passes mixed with common pipistrelle
20:09	Common pipistrelle	Point I	Two passes
20:13-20:22	Common pipistrelle	Walk to J Point J	Constant activity and foraging
20:36-20:44	Common pipistrelle	Walk to F Walk to E	Constant activity, foraging appearing to be from same individual bat
20:55-20:58	Common pipistrelle	Walk to D Point D	Constant activity

Time	Species	Location of bat(s)	Activity
21:02	Common pipistrelle	Point D	Single pass
21:16	Common pipistrelle	Walk to B	Single pass

Survey summary of activity transect on 15/06/2023 - Transect 5

Time	Species	Location of bat(s)	Activity
21:01	Common pipistrelle	Walk to F	Single pass
22:01-22:03	Common pipistrelle	Point F	Constant activity
22:06	Common pipistrelle	Point F	Single pass
22:13	Common pipistrelle	Point G	Single pass
22:16-22:18	Common pipistrelle	Point G	Several passes
22:17	Soprano pipistrelle	Point G	Single pass
22:32-38	Common pipistrelle	Point J Walk to K	Occasional passes
22:48	Common pipistrelle	Point K	Three passes
23:02-23:03	Common pipistrelle	Point L	Constant activity
23:09-23:10	Common pipistrelle	Walk to M	Occasional passes
23:16	Myotis species	Point M	Single pass
23:20	Soprano pipistrelle	Walk to N	Two passes
23:40-23:42	Common pipistrelle	Walk to P	Constant activity
23:47-23:52	Common pipistrelle	Walk to Q	Occasional passes

Time	Species	Location of bat(s)	Activity
23:55	Common pipistrelle	Point Q	Single pass
23:57	Common pipistrelle	Point Q	Four passes

Survey summary of activity transect on 09/08/2023 - Transect 5

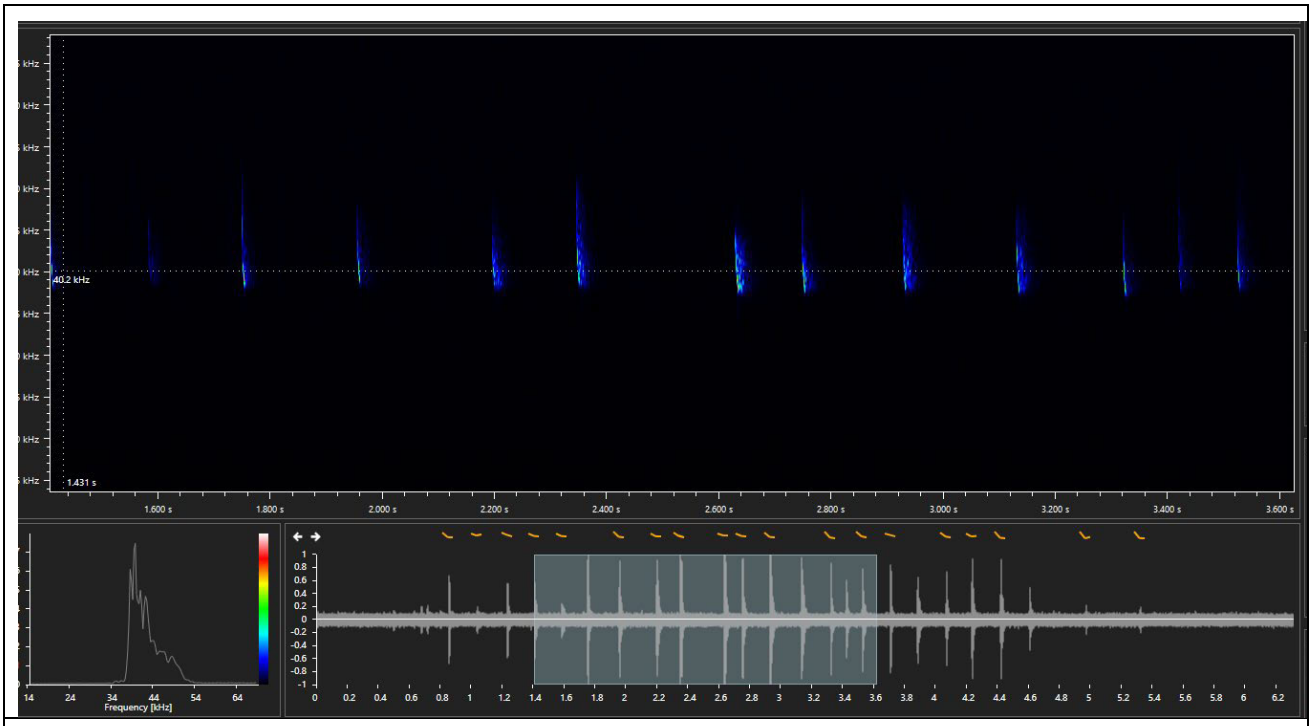
Time	Species	Location of bat(s)	Activity
21:04	Common pipistrelle	Walk to N	Single pass
21:04-21:08	Common pipistrelle	Point M	Occasional passes
21:04-21:08	Soprano pipistrelle	Point M	Three passes
21:09-21:13	Common pipistrelle	Walk to L	Occasional passes
21:14-21:18	Soprano pipistrelle	Walk to L	Occasional passes
21:19-21:23	Common pipistrelle	Point L	Three passes
21:24-21:28	Common pipistrelle	Walk to K	Frequent passes
21:24-21:28	Soprano pipistrelle	Walk to K	Frequent passes
21:29-21:33	Common pipistrelle	Point K	Constant activity, observed foraging over adjacent chicken shed buildings
21:29-21:33	Soprano pipistrelle	Point K	Single pass
21:34-21:38	Common pipistrelle	Walk to J	Constant activity, observed foraging around adjacent trees
21:39-21:43	Common pipistrelle	Point J	Frequent passes
21:44-21:48	Soprano pipistrelle	Walk to I	Single pass
21:49-21:53	Common pipistrelle	Point I	Single pass, barn owl also head
21:54-21:58	Common pipistrelle	Walk to H	Single pass

Time	Species	Location of bat(s)	Activity
21:59-22:03	Common pipistrelle	Point H	Single pass
22:14-22:18	Common pipistrelle	Walk to F	Single pass
22:19-22:23	Common pipistrelle	Point F	Constant activity including foraging
22:34-22:38	Soprano pipistrelle	Walk to E	Single pass
22:44-22:48	Noctule	Point C	Single pass
22:54-22:58	Common pipistrelle	Walk to B	Single pass

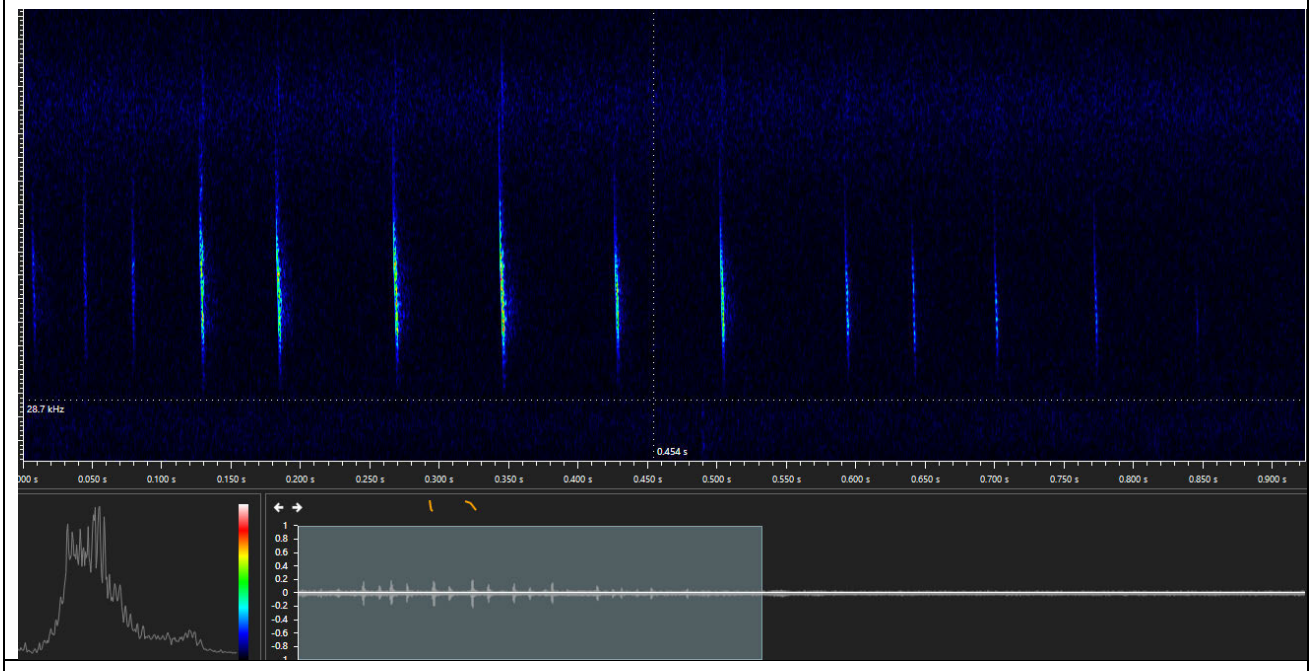
Survey summary of activity transect on 27/09/2023 - Transect 5

Time	Species	Location of bat(s)	Activity
19:05	Noctule	Point O	Single pass
19:27	Common pipistrelle	Point M	Two passes
19:39-19:40	Noctule	Point L	Constant activity
20:20-20:28	Common pipistrelle	Walk to G Point G	Constant activity
20:31	Common pipistrelle	Walk to F	Single pass
20:36	Common pipistrelle	Point F	Single pass
21:08	Daubenton's bat (Myotis species)	Walk to B	Single pass
21:24	Common pipistrelle	Walk to Point A	Single pass
21:27-21:33	Common pipistrelle	Point A	Constant activity including social calls
21:24-21:26	Soprano pipistrelle	Point A	Frequent passes
21:28	Soprano pipistrelle	Point A	Four passes

ANNEX 7: EXAMPLE SONOGRAMS



Example Nathusius' call from location 3 during the May / June deployment



Example Myotis call recorded from East Stour River during 22.06.23, transect 1.

Stonestreet Green Solar

Annex 4 - Brown Hare Population Survey Report (2024 Season)

BROWN HARE POPULATION SURVEY REPORT

EPL 001 LIMITED

STONESTREET GREEN SOLAR

LAND NORTH AND WEST OF ALDINGTON

KENT

REF NO. 5535-LLB-RP-EC-0044

STATUS: FINAL

DATE OF ISSUE: 31/01/2024

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EXECUTIVE SUMMARY

1.1 This brown hare (*Lepus eurpaeus*) survey report has been prepared on behalf of EPL 001 Limited ('The Applicant') in relation to the Development Consent Order (DCO) application for Stonestreet Green Solar ('the Project').

1.2 The report includes a desk study, a habitat suitability survey and field surveys to determine whether brown hare are present within the Site and if present, determine a population assessment.

1.3 Low is used as descriptive term in the No evidence of brown hare was recorded during the brown hare survey visits, however, incidental sightings of brown hare were recorded on-Site in 2020, 2021, 2022 and 2024 during other protected and priority species survey work undertaken at the Site.

1.4 It is therefore assessed that the Site supports a population of brown hare, described as 'low' based on individual brown hare sightings spread across a Site of c.192 ha size. absence of available population criteria for brown hare (but with reference to published studies on hare population density (Mayer et al, 2018 and Sliwinski et al, 2019)).

1.5 The survey data is considered valid for a period of 24 months from the conclusion of the survey period (i.e., until March 2026), after which an update site walkover should be undertaken by a suitably experienced ecologist to assess whether any changes to on-site habitats necessitate a re-assessment of the brown hare baseline.

1.6 This report provides survey findings but does not include any detail of avoidance, mitigation, compensation or enhancement measures relating to brown hare. Instead, this detail is provided in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2) [APP-033]** and the **Outline Landscape and Ecological Management Plan (Doc Ref. 7.10(B)).** that have been produced to inform the Development Consent Order ('DCO') application. As such, this survey report should be read in conjunction with these two strategic documents.

1. INTRODUCTION

INSTRUCTION

1.1 Lloydbore Ltd was instructed to undertake a brown hare (*Lepus europaeus*) survey of land within the Stonestreet Green Solar scheme ('the Project') area (a new solar farm of approx. 192ha in size).

1.2 The survey was commissioned in light of recommendations provided following the initial Site walkover assessment in 2020, as detailed within **ES Volume 4, Appendix 9.6: Preliminary Ecological Appraisal (Doc Ref. 5.4)** [APP-088] which identified the presence of suitable habitat for brown hare.

1.3 Brown hare is afforded legal protection by the Natural Environment and Rural Communities Act 2006 (as amended), Animal Welfare Act 2006, Protection of Mammals Act 1996 (as amended), Wildlife and Countryside Act 1981 (As amended) and Hares Preservation Act 1892. Further details on this legislation can be found in Annex 1.

THE PROJECT

1.4 The Project comprises the construction, operation, maintenance, and decommissioning of solar photovoltaic arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

1.5 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts. The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 (HS1) railway.

1.6 The location of the Project is shown on Figure 1.1: Site Location Plan of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2 (Doc Ref. 5.3)** [APP-043]. The Project will be located within the Order limits (the land shown on the **Works Plans (Doc Ref. 2.3(B))** [REP1-003] within which the Project can be carried out). The Order limits plan is provided as Figure 1.2: Order Limits of **ES Volume 3, Chapter 1: Introduction Figures 1.1 - 1.2(Doc Ref. 5.3)** [APP-043]. Land within the Order limits is referred to as the 'Site'.

DESCRIPTION OF THE SITE

1.7 The Site area is approximately 192 hectares, located to the north and west of the village of Aldington to the south-east of Ashford in Kent. The Project lies within the administrative areas of Kent County Council and Ashford Borough Council local authorities. Further information on the Project, including proposed infrastructure and design, is provided in **ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)** [REP1-018].

1.8 The Site comprises agricultural fields delineated by hedgerows and tree belts. The is currently predominantly used for arable cropping and grazing.

1.9 The Site also supports hedgerow, parcels of woodland, drainage ditches, ponds and arable field margins. The East Stour River flows in an east to west direction within, and adjacent to, the northern part of the Site.

1.10 Note that field references within this report follow Issue IS24 of the Indicative Proposed Layout Plan, Evolution Power (2023). Fields and areas of the Site are described as follows:

- The South Western Area, Fields 1 to 9.
- The Central Area, Fields 10 to 19 and 23 to 25.
- The South Eastern Area, Fields 20 to 22.
- The Northern Area, Fields 26 to 29.
- Project Substation (location of the Project Substation, in the north0western section of Field 26).
- 'Cable Route Corridor' (export of electricity from the Project at 132 kilovolt via underground cables (the 'Grid Connection Cable') to the Sellindge Substation).
- 'Cable Route Crossing' (use of an existing cable duct under the HS1 / Channel Tunnel Rail Link railway or through Horizontal Directional Drilling beneath HS1 for the Cable Route connection).
- Sellindge Substation (location of the existing Sellindge Substation).

SURVEY OBJECTIVES

1.11 The objectives of the survey and report are to: -

- Assess the suitability of on-Site and boundary habitats for brown hare;
- Identify whether brown hare is present within on-site and boundary habitats;
- If brown hare is present, determine the associated population size class; and
- If brown hare presence is confirmed, assess the importance of on-site and boundary habitats for this species.

2. METHOD

DESK STUDY

2.1 A data search was carried out by Kent and Medway Biological Records Centre (KMBRC) in August 2023 to inform the **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2) [APP-033]** .

2.2 A 1km search radius was used and the data obtained includes records of protected and priority species records, including for brown hare.

2.3 Records obtained within the ten-year period prior to the date of the record search are considered 'recent'. Records older than this are considered 'historical'.

2.4 Incidental sightings of brown hare that were recorded during other protected species surveys undertaken between 2020 to 2024 were additionally compiled and reviewed as part of the desk study.

HABITAT ASSESSMENT

2.5 An initial site visit was undertaken) on 21st April 2020 with further site visits during 2020 on various dates to update the habitat baseline.

2.6 Update habitat baseline and condition assessment surveys were also conducted in June and July 2023. A survey of the previously inaccessible Sellindge substation area was carried out on 10th January 2024.

2.7 All habitat assessments were undertaken by suitability qualified and experienced Lloydbore Ltd surveyors.

2.8 Habitat data collected during the PEA was used to assess the suitability of on-site habitats for brown hare. This assessment followed criteria provided in Cresswell *et al* (2012), which includes the suitability of a landscape to provide foraging opportunities throughout an annual cycle - such as a mixture of arable crop, hayfields and pasture divided by hedgerows with field margins. Habitats to provide poor weather and predators (e.g. woody and scrub habitat features) were also reviewed as part of this assessment.

POPULATION ASSESSMENT SURVEY

FIELD SURVEY METHOD

2.9 A population assessment survey for brown hare, comprising five survey visits involved walking pre-determined linear transects, which were undertaken from the end of twilight. Transects were planned to bisect all on-site fields and specifically designed to provide visual access to field boundaries through making use of higher ground which allowed an extended field of view.

2.10 The survey was undertaken to establish whether brown hare is present within the Site, and if presence was confirmed, to assess population abundance and the importance of on-site habitats for this species.

2.11 Each transect was walked by two surveyors (see Annex 2 for routes) and was led [redacted] BSc (Hons). Survey visits were conducted at dusk using 1,000,000 candle-powered torches to illuminate surrounding habitat to search for brown hare, including indicative eyeshine. Additionally, a thermal camera (Nightfox Whisker Night Vision Binoculars, Flir Scout or Guide TrackIR) was utilised to increase the detection rate of brown hare. Theses thermal cameras were used to detect any presence of brown hare at greater distances than spotlighting. Spotlighting alone can also miss inactive brown hares within their 'forms' (small depression created by hares to rest and hide in).

2.12 If presence of brown hare was suspected or detected, through spotlighting or thermal imagery, the lead surveyor left the transect and began slowly walking towards the animal (aka the 'target'), periodically utilising spotlight and/or thermal camera until species identification was possible. If a target flushed before the surveyor was able to confirm identification, then a likely identification was taken from the movements, size and appearance of the animal, to make an informed decision on species.

2.13 The most commonly mistaken species would be a European rabbit (*Oryctolagus cuniculus*) which, alongside having a have a much smaller body and ears (Couzens et al, 2017), have a distinctive hop in their movement, whereas brown hare run (The Mammal Society, 2024). Rabbits also flash the white markings on their tail as they move, whereas brown hare tuck their tails down so the white underside is not visible when running (Couzens et al, 2017).

2.14 Previous research has shown that both spotlighting and thermal imagery are appropriate for collection of brown hare population data within an agricultural landscape, with little statistical difference in the density estimates derived from these two methods (Sliwinski et al, 2021). To ensure a robust set of data was collected, both survey techniques were undertaken.

2.15 Additionally, any brown hare field signs observed along the transect route - such as form depressions, footprints and scat, were recorded.

2.16 Incidental sightings of other mammal species observed were also recorded.

CLASSIFYING POPULATION DENSITY

2.17 A baseline estimate of the population density was informed by research undertaken by Mayer et al (2018). In similar habitat to those found on Site, consisting of predominantly arable fields, brown hare densities in this study were approximately five brown hares per km², which was used for a baseline approximation for a 'moderate' population.

2.18 This is likely a low estimate for a 'moderate' population. Other long-term research studies monitoring population fluctuations within arable farmland found populations of hare ranging, depending on the region the data was collected, between 8.1 and 13.5 brown hare per km² (Sliwinski et al, 2019).

2.19 The observed sightings and peak counts of brown hare were evaluated within this report using the above population density context.

SURVEY DATES AND TIMING

2.20 Although brown hares are generally solitary, they congregate in small groups during late winter and during the courtship and breeding season, which occurs from February until September (PTES, 2024; Harris & Yalden, 2008). Brown hares are most active at night, particularly around dusk and dawn when they spend time foraging (PTES, 2024; Cresswell, 2012).

2.21 Surveys were therefore undertaken from the 31st January 2024 and over the beginning of the courtship and breeding season, with survey visits commencing at twilight to ensure brown hares had become active and left their 'forms' (small depressions created by hares to rest and hide in). Additionally, this timing allowed greater visibility when the crop length was shorter.

2.22 Survey dates were chosen specifically to avoid periods of full moon, as brown hare generally show reduced activity during this time, likely to limit encounters with nocturnal predators (Mori et al, 2022).).

2.23 Survey dates and weather conditions are provided in Table 1 below.

Table 1 Survey details of the brown hare presence / likely absence surveys in 2024

Date	Start/finish time	Transect surveyed	Start conditions	End conditions
31/01/2024	17:19 / 19:50	Transect 1	8°C, light breeze, 100% cloud cover, dry ground.	9°C, gentle breeze, 100% cloud cover, dry ground.
07/02/2024	17:31 / 18:36	Transect 5	5°C, calm, 100% cloud cover, damp ground.	5°C, calm, 100% cloud cover, damp ground.
20/02/2024	17:45 / 18:56	Transect 3	9°C, light breeze, 100% cloud cover, damp ground.	9°C, gentle breeze, 100% cloud cover, damp ground.
27/02/2024	18:05 / 20:32	Transect 2	7°C, calm, 60% cloud cover, damp ground.	5°C, calm, 80% cloud cover, damp ground.
13/03/2024	18:30 / 19:36	Transect 4	10°C, light air, 100% cloud cover, very damp ground, some areas flooded.	10°C, calm, 100% cloud cover, very damp ground, some areas flooded.

SUPPLEMENTARY SURVEY EFFORT (WINTER BIRD TRANSECTS)

2.24 To supplement the brown hare population assessment survey (nocturnal transect) data, brown hare sightings during wintering bird surveys (walked dawn transects) undertaken in the period November 2023 to March 2024 were factored into the population assessment. The wintering bird survey covered the entire Site during four survey visits. This survey was the primary source of brown hare records in previous years (2020-2022).

2.25 As the surveyors on these bird surveys were briefed to record brown hare, this provides significant additional supplementary survey effort, with such incidental records being included within this report.

2.26 These results are included within the desk study and included in the context of results and evaluation where relevant.

SURVEY LIMITATIONS

2.27 An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The ecological character of a site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support a species.

2.28 Flooding in Field 27 encountered on Transect 4, on 13th March 2024, meant that the transect had to be rerouted slightly. Transect changes for Field 27 were minor and allowed surveyors to still assess the entirety of the field and therefore this is not considered a significant limitation.

2.29 Flooding in Field 28 on 13th March 2024, however, resulted in only a small section of the east side of the field being accessible, with the rest of Field 27 entirely underwater. Brown hare would not utilise such flooded areas and as such the survey would not have missed any potential occurrences of this species, however this does mean data was not able to be collected for this field.

2.30 While flooding is a minor limitation to the survey, it is not considered significant as incidental data collection on brown hare presence in this field (and across the Site), throughout the full range of time periods (dawn, day, dusk, nocturnal) has been undertaken across three seasons of survey (2020, 2021 and 2022).

LIFESPAN OF SURVEY DATA

2.31 The lifespan of this report and the ecological survey information contained herein has been determined based on CIEEM's *Advice Note: On the Lifespan of Ecological Reports and Surveys* (CIEEM, 2019) and an assessment of how the presence, distribution and abundance of brown hare may change over time.

2.32 If the commencement of site works is delayed beyond two years from the final brown hare survey (March 2026), an update site walkover should be undertaken by a suitably experienced ecologist along with a review this report.

2.33 Following the update walkover, the ecologist will need to determine whether there have been any material changes to the ecological baseline, the potential impacts of the Project and/or the ecology-related legal risks associated with the Project. An update brown hare population assessment may then be needed to provide up-to-date data.

ZONE OF INFLUENCE (ZOI)

2.34 The potential impact of a development is not always limited to the boundaries of the Site concerned. The development may also have the potential to impact on ecologically valuable sites, habitats or species beyond the site boundaries.

2.35 The area over which a project may impact ecologically valuable receptors is known as the Zone of Influence (ZoI).

2.36 The ZoI is determined by the source/type of impact, a potential pathway for that impact and the location and sensitivity of the ecologically valuable receptor beyond the boundary.

2.37 A review of the Project confirmed the result in loss of suitable on-site brown hare habitat. Works may also result in impacts on individual animals (e.g., killing and/or injury during site works).

2.38 These potential impacts could adversely affect the conservation status of the wider local brown hare population, but the most significant potential adverse effects would likely be experienced by any brown hare present on Site.

2.39 Therefore, in the absence of appropriate avoidance, mitigation, and compensation measures, the potential ZoI of the Project, in relation to brown hare, is likely to extend to the Site and those areas located just beyond the Site boundary.

2.40 This potential ZoI was used to establish the required extents of the brown hare survey, which included all suitable on-Site habitat.

3. SURVEY RESULTS

DESK STUDY

3.1 The biological data search returned two recent and five historic records of brown hare located within 1km of the Site.

3.2 The most recent record (2021) was located within Field 24.

3.3 Incidental sightings have occurred during protected and priority species surveys undertaken at the Site across four survey seasons (2020, 2021, 2022 and 2024). A total of 10 incidental sightings were recorded within 2020, two incidental sightings were recorded within 2021 and 2022. One incidental sighting was recorded in 2024, and is addressed within the 2024 survey results

3.4 Locations of the incidental recordings are shown within Annex 4.

HABITAT ASSESSMENT

3.5 Suitable habitat for brown hare is present throughout the Site due to the presence of large areas of arable fields, which offer extensive foraging habitat for brown hare at certain times of year, due to the presence of crops.

3.6 Brown hare prefer cropland and grassland over other foraging habitats due to their digestive requirements. Brown hare require food with high nutritional value, poor in fibre and rich in fats and proteins, such as those found in cropland habitats (Santilli et al, 2023). However, brown hare still require access to other food sources such as wildflowers, to meet their nutritional needs when cultivated plants have a low nutritional value, when a monoculture of crop reduces nutritional variety or crops have been harvested (Santilli et al, 2023).

3.7 Field margins present on Site provide some areas of alternative foraging, however these are limited in size generally extending no more than *c.*1.5m from the field boundary.

3.8 Fields that are dedicated to the production of maize products are likely to have a negative impact on brown hare populations. Maize heavy diets can lead to changes and reduction in intestinal flora diversity, coccidiosis (a protozoal disease) and varying infestations which can all result in reductions in fitness of brown hares (Sliwinski & Ronnenberg, 2019). Limited maize crop has however been recorded within the Site, with most fields being utilised for wheat.

POPULATION ASSESSMENT SURVEY

3.9 No brown hare individuals or field signs were recorded during the survey visits.

3.10 An incidental single sighting of brown hare occurred during the winter bird survey on 25th January 2024, within the Northern Area Field 28.

3.11 Rabbits were recorded across the Site during each of the survey visits.

3.12 An unidentified mammal was recorded on the 31st January 2024 within Field 7. It was not possible to identify the species of mammal as the individual was only seen

briefly through a gap in a hedgerow and could not be relocated upon investigation. Due to its shape and behaviour it is suspected to have been a red fox (*Vulpes vulpes*), especially as other foxes were recorded during this survey.

3.13 Three foxes were recorded on 31st January 2024, one each within Field 1, Field 3 and Field 7. Another fox was recorded within Field 15 on 27th February 2024.

3.14 Two badgers (*Meles meles*) were recorded on 27th February 2024 within Field 13 and Field 10.

3.15 One yellow-necked mouse (*Apodemus flavicollis*) was recorded within Field 10 on 27th February 2024.

3.16 Full details of the species recorded during the surveys can be found in Annex 3.

4. EVALUATION AND RECOMMENDATIONS

EVALUATION

4.1 No evidence of brown hare presence was recorded during the 2024 brown hare survey, with one incidental sighting recorded in 2024 during the winter bird survey.

4.2 Based on incidental hare sightings that have been recorded on Site over three separate survey seasons, it is assessed that a 'low' population of brown hare is present on Site. 'Low' is used as a descriptive term in the absence of available population criteria for brown hare but with reference to published studies on brown hare population density (Mayer et al,2018 and (Sliwinski et al, 2019), and reflects individual brown hare sightings spread across a Site of *c.*192 ha in size.

4.3 Incidental sightings during other survey types (primarily the 2023-2024 wintering and 2023 breeding bird surveys) have also reduced from higher numbers recorded in 2020. However, observations made by surveyors have noted a reduction in the size of field margins across the survey periods from 2020. Reduction of the extent and width of field margins may have reduced the suitability of the Site for brown the nutritional variety available to offset the general monoculture of crop planted.

4.4 It was also noted during other protected species surveys, and by the landowner, that potential hare coursing activity had been discovered on Site. Hare coursing is an illegal practice, as per the Hunting Act 2004, that involves using dogs to catch, chase and kill brown hare. If this practice has been undertaken on Site, it could drastically reduce numbers of individuals present, alongside potentially shifting brown hare activity into the surrounding areas with lower levels of disturbance.

RECOMMENDATIONS

4.5 Detailed avoidance, mitigation and enhancement measures relating to fungi are included within the associated **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** [APP-033]and the **Outline Landscape and Ecology Management Plan (LEMP) (Doc Ref 7.10(B))**.

4.6 The below key principles are provided for context only and are expanded upon further in the above reports.

4.7 Habitat manipulation techniques should be utilised in advance of construction works, encouraging brown hare to vacate areas to be subject to works by removing available ground cover. Supervision of clearance works (similar to that required for breeding birds) may include use of an Ecological Clerk of Works (ECoW) to check areas for the presence of brown hare. Brown hare will likely vacate (or be flushed) as part of habitat manipulation techniques, however provision to leave hare nests or leverts in-situ (with a demarcation zone, similar to ground nesting birds) or for animals to be relocated to suitable vegetation cover as a last resort will be determined by the ECoW, informed by season and the life-stage encountered.

4.8 Such mitigation measures will form part of the construction phase ecological supervision and mitigation as part of the detailed Construction and Environment Management Plans (CEMPs).

4.9 No trenches or pits should be left open overnight unless they are fitted with a means of escape for mammals (e.g. a scaffold plank positioned to form a ramp). This follows general best practice for mammals (e.g. badger and hedgehog).

4.10 On-site habitats can be improved for brown hare by introducing areas of wildflower planting to increase suitable foraging habitat on-site, as this will provide nutritional needs that cultivated, crop plants may lack.

4.11 Expected habitat creation as part of the Project, such as conversion of arable fields to grassland and planting of winter bird crop strips, will greatly increase the quantity of foraging habitat for species such as brown hare and provide a food source year-round, reducing the food scarcity during crop harvest periods.

5. REFERENCES

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ANNEX 1 SUMMARY OF LEGISLATION, PLANNING POLICY AND GUIDANCE

LEGISLATION

5.1 The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.

5.2 The legal protection afforded to protected species overrides all planning decisions.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006 (AS AMENDED)

5.3 Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions.

5.4 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 has been used to identify habitats and species considered to be a conservation priority at a national scale. These are also called Habitats or Species of Principal Importance. The importance of these habitats and species are recognised in the National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government, 2021).

ANIMAL WELFARE ACT 2006

5.5 This Act imposes a duty of care on anyone responsible for an animal to take reasonable steps to ensure that the animal's needs are met. With regards to development, this may have implications when capture and translocations of animals are proposed.

PROTECTION OF MAMMALS ACT 1996 (AS AMENDED)

5.6 This Act provides protection for all wild mammals against certain cruel acts with the intention of causing unnecessary suffering, including crushing and asphyxiation. With regards to development, this may have implications for site clearance works.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

5.7 This Act provides protection for brown hare during the 'closed season' (breeding season), between 1st February and 30th September.

5.8 It is an offence to intentionally or recklessly kill, injure or take a brown hare during closed season without a licence. It is also an offence to possess or control, sell or offer for sale, or transport for the purpose of sale any living or dead brown hare (or rabbit), or any derivative of such an animal, which has been killed without a legal right to do so.

HARES PRESERVATION ACT 1892

5.9 This Act provides protection for brown hares during their main breeding season (March, April, May, June and July) and prohibits the selling in any part of Great Britain any hare or leveret.

HUNTING ACT 2004

5.10 The principal purpose of the Act is to criminalise certain forms of hunting of wild mammals with dogs, but it is wider than that and includes specific offences relating to hare coursing.

5.11 In broad terms the Act creates five offences:

- Hunting a wild mammal with a dog;
- Permitting land to be used for hunting a wild mammal with a dog section;
- Permitting a dog to be used for hunting a wild mammal with a dog;
- Participating in, attending, facilitating or permitting land to be used for the purposes of a hare-coursing event; and
- Entering/permitting/handling a dog in a hare-coursing event section.

ANNEX 2 BROWN HARE SURVEY PLAN TRANSECT ROUTES

LEGEND:

- Transect route 1
- Transect route 2
- Transect route 3
- Transect route 4
- Transect route 5
- Order limits

0 100 200 m

1:10000

rev.	rev. date	auth.	rev. note
P01	27/09/24	MW	Initial issue.

client. EPL 001 Limited

project.

Stonestreet Green Solar

Land North And West Of Aldington

Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0136 rev. P01

drawing title. Brown Hare Survey Plan suit. S4

Transect Routes APFP 5(2)(i)(ii)

rev date. 27/09/24

scale. 1:10000

sheet. A3

drawn. DM

checked. MW

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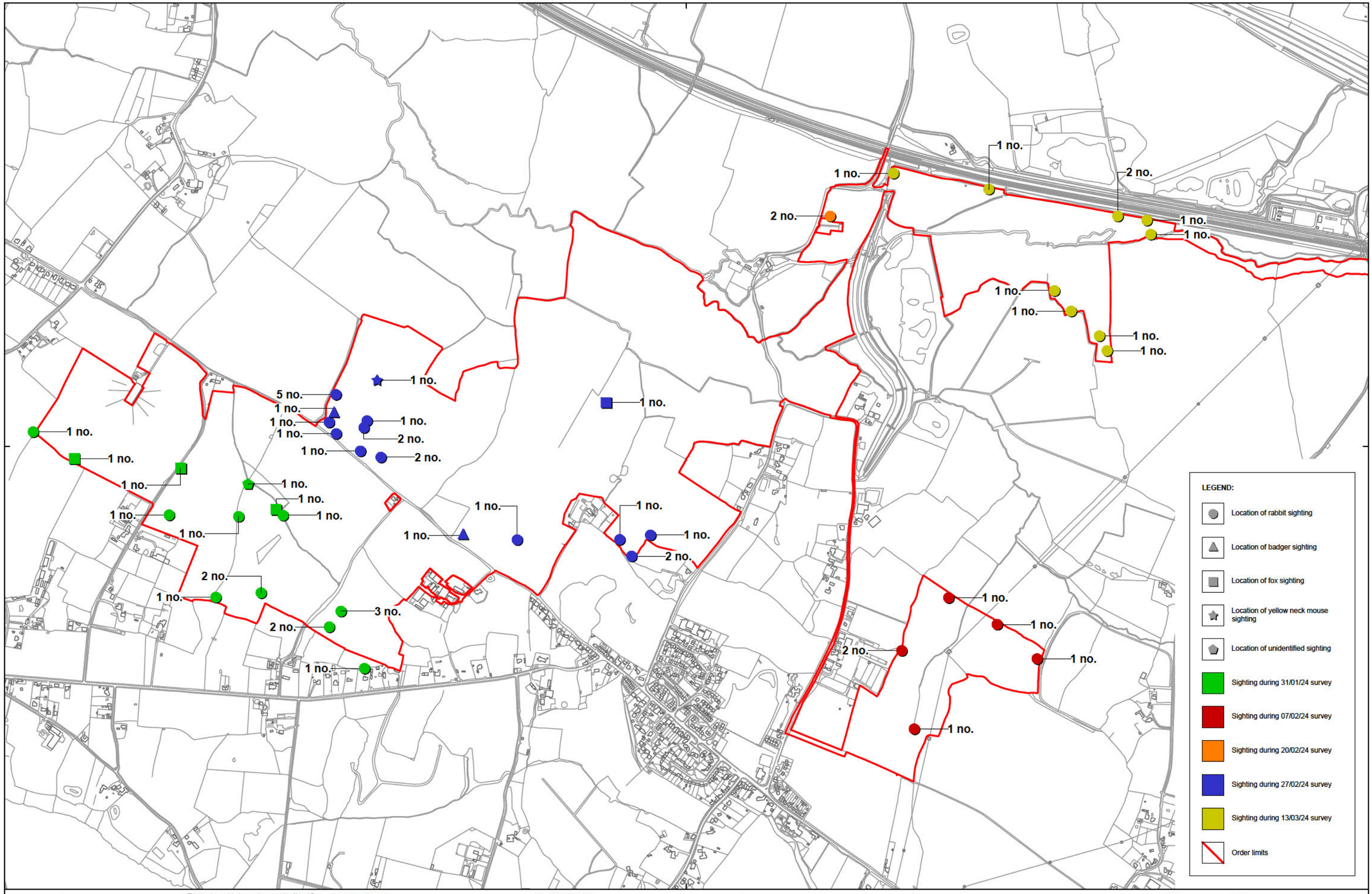
ANNEX 3 BROWN HARE SURVEY RESULTS PLAN



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rev.	rev. date	auth.	rev. note
P01	27/09/24	MW	Initial issue.

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project. Stonestreet Green Solar

Land North And West Of Aldington

Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0138 rev. P01

drawing title. Brown Hare Survey Results Plan suit. S4

APFP 5(2)(I)(ii)

rev date. 27/09/24

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ANNEX 4 BROWN HARE SURVEY RESULTS PLAN: INCIDENTAL SIGHTINGS

1 no.
1 no.
2 no.
1 no.
1 no.
1 no.
2 no.
1 no.
1 no.
1 no.
5 no.
1 no.
1 no.
2 no.

LEGEND:

- Incidental brown hare sighting during 2020 survey
- Incidental brown hare sighting during 2021 survey
- Incidental brown hare sighting during 2022 survey
- Incidental brown hare sighting during 2024 survey
- Order limits

N

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rev.	rev. date	auth.	rev. note
P01	27/09/24	MW	Initial issue.

client. EPL 001 Limited

project. Stonestreet Green Solar
Land North And West Of Aldington
Kent

drawing no. 5535-LLB-XX-XX-DR-Ec-0137 rev. P01

drawing title. Brown Hare Survey Results Plan suit. S4

Incidental Sightings APFP 5(2)(i)(ii)

rev date. 27/09/24
scale. 1:10000
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