

Flaxlands Solar Farm

Breeding Birds Survey Report

Ampyr Solar Europe

Project number: 60727989

September 2024

Prepared for:

Ampyr Solar Europe

Prepared by:

AECOM Limited

© 2024 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Introduction.....	1
1.1	Background	1
1.2	The Scheme	1
1.3	Site Description	1
1.4	Aims and Objectives	1
2.	Relevant Legislation, Policy and Guidance	2
2.1	Legislation	2
2.2	Local Priority Species.....	3
2.3	Birds of conservation concern.....	3
3.	Methods.....	5
3.1	Characterising the baseline	5
3.2	Desk Study	5
3.3	Field Survey	5
3.4	Assessment of biodiversity importance.....	7
3.5	Assumptions and Limitations	8
3.6	Quality Assurance	8
4.	Results	9
4.1	Desk Study	9
4.2	Field Survey	9
5.	Evaluation.....	12
5.2	Specially Protected Species	12
5.3	Species of conservation importance	12
5.4	Species abundance.....	12
5.5	Species Diversity.....	13
5.6	Species Distribution	13
6.	Conclusions	14
7.	Outline Mitigation Proposals.....	15
7.1	Habitat Retention and Creation.....	15
7.2	Timing of Vegetation Clearance	15
8.	References	17
	Annex A: Figures	19

Tables

Table 3-1: Breeding species diversity criteria (Fuller, 1980)	8
Table 4-1: Breeding status, number of territories and conservation designations of birds recorded within the Survey Area	9

1. Introduction

1.1 Background

- 1.1.1 AECOM was instructed by Ampyr Solar Europe to undertake a programme of surveys for breeding birds to inform the proposed Flaxlands Solar Farm (hereafter referred to as the 'Scheme').
- 1.1.2 This report provides information on the presence, distribution and abundance of breeding bird species, relevant to the Scheme, including the results of surveys undertaken within the Scheme boundary (the Site).

1.2 The Scheme

- 1.2.1 The Scheme includes the installation of a 49.9MW solar farm and 49.9MW Battery Energy Storage System (BESS) within the Site. Solar photovoltaic arrays will be situated in both western and eastern land parcels with the location of the BESS in the north of the Site.
- 1.2.2 It is understood that the Scheme will require clearance of vegetation, tracking for plant to access working areas and widening of gaps within hedgerows for access purposes, although the extent of this is not yet defined.

1.3 Site Description

- 1.3.1 The Site is located approximately 1.7 kilometres (km) north of the town of Royal Wootton Bassett, in the county of Wiltshire. The Site is approximately 250 metres (m) north of the M4, centred at Ordnance Survey national grid reference SU 06910 85466.
- 1.3.2 The Site is comprised of two land parcels, a western and an eastern land parcel, joined via Flaxlands Lane. Both parcels consist of multiple fields bounded by hedgerows and including those with mature broadleaved trees and existing farm tracks across the Site. Wet ditches, assumed to be associated with the drainage of fields, are present in several locations throughout the Site, as are standing bodies of water.
- 1.3.3 The Site is surrounded by agricultural grassland fields which are common throughout the immediate landscape. The urban developed area of Royal Wootton Bassett lies to the south which is separated from the Site by the M4.

1.4 Aims and Objectives

- 1.4.1 The aim of this report is to determine the presence, assemblage and distribution of breeding bird species within the Survey Area (see Section 3.1).
- 1.4.2 The objectives, therefore, are to:
- review existing ecological data to identify any records of breeding birds occurring within the Study Area (see Section 3.1); and
 - undertake surveys of breeding birds to confirm the presence, assemblage and distribution of breeding bird species.
- 1.4.3 Combined, this will be used to determine:
- the biodiversity importance of the Site for breeding birds; and
 - the potential impacts of the Scheme on breeding birds and any required mitigation.

2. Relevant Legislation, Policy and Guidance

2.1 Legislation

Wildlife and Countryside Act

- 2.1.1 The legislative provisions for the protection of all wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 1). Under the WCA, a wild bird is defined as any bird of a species that occurs in a wild state as a resident or a visitor to the European Territory of any member state, but does not include poultry or (except in relation to the power to grant licences and prohibition on certain methods of killing) any game bird.
- 2.1.2 When breeding, all birds, their nest, eggs and nestlings are afforded protection under the WCA, as updated by the 'Countryside and Rights of Way Act 2000' (Ref 2). Therefore, during the bird breeding season 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.
- 2.1.3 Typically, the breeding season is defined as between March and August, inclusive, although it is important to note that for some species, breeding can occur outside of these months.
- 2.1.4 Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 1), for which there are additional offences for intentionally or recklessly disturbing these birds while it is building a nest or is in, on or near a nest containing eggs or young, and of disturbing their dependent young.
- 2.1.5 No licences are available for disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Directive of the Conservation of Wild Birds

- 2.1.6 A number of bird species recorded within the UK (including those that are resident, overwintering and migratory) are protected under European legislation through the Directive of the Conservation of Wild Birds (European Union (EU) Birds Directive) (Ref 3), which lists 193 species, or sub-species, of birds in Annex 1 which are:
- in danger of extinction;
 - are rare, or have restricted local distribution;
 - are vulnerable to specific changes in their habitat; or
 - require particular attention for reasons of the specific nature of habitat.
- 2.1.7 The Birds Directive was most recently transposed into English law by The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 4). Although the UK is no longer a member state of the EU, the 2019 amendments (Ref 5) to The Conservation of Habitats and Species Regulations 2017 (Ref 4) make it clear that provisions regarding the protection and designation of Special Protection Areas (SPAs) are maintained. Species listed in Annex 1 are those for which the UK government takes special conservation measures; including the designation of land as SPAs to ensure the survival and reproduction of these species throughout their distributions. These sites are automatically included within the National Site Network; a network of core breeding and resting sites that are protected for rare and threatened species.

Species of Principal Importance

- 2.1.8 In England, the Natural Environment and Rural Communities (NERC) Act (Ref 6) requires the Secretary of State for Environment, Food and Rural Affairs to publish and maintain a list of habitats and species that are of 'principal importance' for the purpose of conserving biodiversity and are regarded as conservation priorities under the UK Biodiversity Framework (Ref 7), which supersedes the UK Biodiversity Action Plan (UKBAP) (Ref 8). The UKBAP was launched in 1994 and established a framework and criteria for identifying species (and habitat types) of conservation concern.
- 2.1.9 There are 49 bird species listed as being Species of Principal Importance (SPI) for conservation in England under Section 41 of the NERC Act (Ref 6). These species are of material consideration during the planning process and are used to guide decision-makers such as public bodies (including local and regional authorities) in implementing their duty under Section 40 of the NERC Act.
- 2.1.10 The occurrence of bird species of principal importance has been identified in this report through a desk study and field surveys.

2.2 Local Priority Species

- 2.2.1 The Site is located within the county of Wiltshire. Formerly, the Wiltshire Biodiversity Action Plan 2008 (LBAP) (Ref 9) provided context to inform identification of threatened or uncommon species of local relevance, alongside priorities for conservation and enhancement targeted at a local level in the county. However, under the Environment Act 2021 (Ref 10), these are being replaced by Local Nature Recovery Strategies (LNRs), which are a system of spatial strategies for nature which will support delivery of biodiversity net gain (BNG) and provide more focussed action for nature recovery. Whilst this is still being developed for Wiltshire (its expected to be completed in 2025) and with no specific species plans currently in place for birds, this report references those species formerly included on the LBAP, which are also included as SPI under the NERC Act (Ref 6).

2.3 Birds of conservation concern

- 2.3.1 The Birds of Conservation Concern (BoCC) is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green) that indicate the level of conservation importance for each species are derived from quantitative assessments from standardised criteria and are drawn together by the UK's leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).
- 2.3.2 The most recent assessment, BoCC 5 (Ref 11), was published in December 2021 and is based on the most up-to-date evidence available and includes conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. The BoCC list was further updated by BoCC 5a (Ref 12), which updates the assessment for seabirds. Collectively within this report, these are referred to as BoCC species.
- 2.3.3 The criteria for birds being included in the BoCC lists, relevant to the breeding season, are as follows:

Red List

- species that are globally threatened (Critically Endangered, Endangered and Vulnerable, but not Near Threatened) under International Union for Conservation of Nature and Natural Resources (IUCN) Red List guidelines (Ref 13);
- species that have shown a historical decline in breeding populations, declining severely between 1800 and 1995 and have subsequently not recovered;
- species that have suffered a severe (>50%) breeding population decline within the UK in either the last 25 years or the longer-term (since 1969); or

- species whose UK range in the breeding season has declined by more than 50% between respective breeding atlases.

Amber List

- species that are threatened in Europe (Critically Endangered, Endangered and Vulnerable, but not Near Threatened as per IUCN Red List Guidelines (Ref 13));
- species that were previously red-listed for historical population decline, followed by an increase of at least 100% over 25 years or the longer-term period;
- species that have suffered a moderate (>25% but <50%) breeding population decline within the UK in either the last 25 years or the longer-term (since 1969);
- species whose UK range in the breeding season has declined by more than 25% but less than 50% between respective breeding atlases;
- breeding rarities (UK population <300 breeding pairs individuals);
- breeding localisation whereby more than 50% of the UK population was found at ten or fewer sites in the breeding season; or
- breeding international importance whereby the UK holds at least 20% of the European population in the breeding season of a particular species.

Green List

- species that are not showing moderate or severe declines and do not qualify under any of the above criteria.

- 2.3.4 Although the BoCC lists confer no legal status in themselves, they are useful in evaluating the conservation significance of bird assemblages, and for assessing the potential significance of impacts and informing appropriate levels of mitigation with respect to bird populations that may be affected by a plan or project.

3. Methods

3.1 Characterising the baseline

3.1.1 Within this report, the following terminology is used when referring to the geographic areas within which assessments were made:

- Study Area – the area within the Site and a 2 km radius which was subject to the collection of background information e.g. desk study records for birds to supplement the findings of the survey work;
- Zone of Influence (Zol) - the area over which breeding birds may be affected by the Scheme which, using the criteria below and proportionate to the Scheme's impacts, is up to 200 m from the Site (dependent on the sensitivity of the species). Through review of likely impacts of the Scheme and results of the desk study, the scope of field surveys was then defined; and
- Survey Area – the area within which survey work was undertaken. The Survey Area in which the general breeding bird assemblage was recorded included all habitats within the Site plus a minimum 50 m survey zone around the Site. For species of greater conservation value and/ or higher sensitivity, e.g. those listed on Schedule 1 of the WCA (Ref 1) and sensitive to potential noise or visual disturbance, where any such species were recorded, the Survey Area was extended up to 200 m from the Site.

3.1.2 The Zol is based on:

- the nature of the project (a solar farm), project activities and the potential for effects at all development stages (construction, operation and decommissioning);
- the nature of the land use within the Site (minimum 80% neutral grassland, grazed on rotation) and habitats in the vicinity of the Site, their connectivity within and outside of the Site and how they may be used by breeding birds;
- the presence and assemblages of breeding bird species in the wider area, based on the location of the Site and desk study data; and
- the habits, behaviours and preferences of different bird species during the breeding season and whether these could be affected both spatially and temporally.

3.1.3 Whilst standardised survey zones for assessing the impacts of development on bird populations do not exist, the geographic areas described above provide information on breeding birds both within the Site and the area immediately surrounding the Site, including areas contiguous with the Site, where birds may potentially be adversely affected. Therefore, these are sufficient to determine the likely impacts of the Scheme on breeding bird species occurring or likely to occur within the vicinity of the Site.

3.2 Desk Study

3.2.1 A desk study was undertaken as part of the Preliminary Ecological Appraisal in May/ June 2024 (Ref 14). Records of protected and notable bird species within a 2 km radius of the Site were obtained through Wiltshire and Swindon Biological Records Centre (WSBRC). Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely to be still representative of bird species in the local area.

3.3 Field Survey

Territory Mapping Survey

3.3.1 The survey was undertaken based on standard territory mapping methods for surveying breeding birds as detailed in 'Bird Monitoring Methods' (Ref 15) and 'Bird Census Techniques' (Ref 16). This method is based on the principle that many species during the breeding season are territorial. This is found particularly amongst passerines, where territories are often

marked by conspicuous song, display and periodic disputes with neighbouring individuals. Territory mapping methods produce analysis maps of non-overlapping ellipses encircling clusters of records thought to relate to separate pairs of breeding birds. These ellipses may not show the entire extent of the pairs' actual breeding territory which may be significantly larger; however, they are likely to show those areas in which the pair is most active.

- 3.3.2 Six survey visits were undertaken between April and August 2024, as presented below.
- Visit 1: 22nd April 2024;
 - Visit 2: 2nd May 2024;
 - Visit 3: 23rd May 2024;
 - Visit 4: 7th June 2024;
 - Visit 5: 20th June 2024; and
 - Visit 6: 7th August 2024.
- 3.3.3 Survey routes followed hedgerows, fence lines and field margins (including paths, tracks and roads). Deviations into areas of grassland fields, scrub, woodland and other uncultivated habitats were made, where possible. The routes did not include walking through ploughed or cultivated fields, due to the possibility of trampling and damaging crops.
- 3.3.4 On each survey visit, the route was walked at a slow pace with start and finish times noted. Prior to approaching a field, the observer undertook an initial scan to determine the presence of any species already present. Regular stopping points were included at various locations around the Survey Area to record any species that may be passing through the Survey Area and to survey birds that were audible or visible within any inaccessible areas.
- 3.3.5 Each survey was undertaken during appropriate conditions for surveying when the weather was dry, warm and with little to no wind. Surveys were undertaken in the morning, commencing 1-2 hours after sunrise and finishing before midday. During these times, breeding birds are more active and can be detected in song more frequently. Survey routes were mapped, and the direction walked alternated on each visit, to ensure that all areas were covered at various times of the morning across the duration of the survey.
- 3.3.6 All birds seen and heard were recorded directly onto paper maps and then later digitised onto a 1:10,000 scale Ordnance Survey base map of the Survey Area. All bird species were recorded and mapped across the entire Survey Area. Specific codes were used to record bird behaviour, including singing, calling, flights and movements between areas, carrying food, nest building, aggressive encounters and other bird behaviour.
- 3.3.7 The expected outcome from the surveys is that mapped registrations fall into clusters, approximately coinciding with territories. A cluster is generally a spatially distinct group of registrations that represent the activity of not more than one pair. Ideally, clusters include registrations of territorial behaviour across all visits and are clearly demarcated from adjacent clusters by simultaneous recording of neighbouring birds. Therefore, territory boundaries are assumed to be between such birds.
- 3.3.8 On completion of the surveys, analysis maps were produced for each species, consisting of all registrations recorded during surveys. From these species maps, the number of territories was calculated by identifying the number of clusters present.
- 3.3.9 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 data represent aggregations or loose colonies.
- 3.3.10 The following definitions were used to identify the breeding territory status of each species recorded:

- Confirmed: includes species for which territories were positively identified as a result of the number of registrations recorded; the location of an active nest; or the presence of recently fledged/downy young;
- Probable: includes a species pair observed in suitable nesting habitat during surveys; or agitated behaviour/anxiety calls from adults (suggesting the presence of a nest or young nearby). Behaviour was observed on insufficient occasions to confirm the presence of a territory;
- Possible: includes species observed during surveys in suitable nesting habitat; or a singing male present (or breeding calls heard) in suitable breeding habitat; or
- Non-breeding: species-specific information was used to determine fly-over species, or species suspected to be summering non-breeder.

3.3.11 Where any non-passerines were recorded, including waterbirds (e.g., wildfowl, waders and birds of prey), the behaviour or number of individuals including the sex ratio, present in suitable breeding habitat, was used to determine the potential presence of likely breeding territories and/or estimated number of breeding individuals. This was made with reference to the specific species group methods, as presented in 'Bird Monitoring Methods' (Ref 15).

3.4 Assessment of biodiversity importance

3.4.1 The biodiversity importance of the Survey Area for breeding birds was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in Section 2 of this report. These include:

- species listed on Schedule 1 of the WCA, 1981 (as amended) (Ref 1);
- species listed in Annex 1 of the EU Birds Directive (Ref 3);
- SPI in the UK (Ref 6), or Local Priority Species in Wiltshire; and
- species included in the BoCC Red or Amber Lists (Ref 11, Ref 12).

Species abundance

3.4.2 In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and biodiversity importance, consideration has to be given to the value of the Survey Area for the population of individual species that it supports. This can be done by comparing the population present within the Survey Area with the national and county breeding population for certain species. National estimates for breeding birds are published in a paper: 'Population estimates of birds in Great Britain and the United Kingdom' (Ref 17). The BTO Bird Atlas 2007-2011 (Ref 18) was also reviewed for species information on a national level.

3.4.3 Information on populations of any nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) (Ref 19).

3.4.4 County-level estimates on the breeding bird populations of species in Wiltshire were obtained from online resources and county avifauna reports, where this information was available. However, professional judgement was applied when determining the geographic importance of species where population estimates were not available.

Species diversity

3.4.5 The number of species recorded in an area is a simple measure of diversity that can indicate its importance at each season of the year.

3.4.6 Table 3-1 presents the breeding species diversity criteria as outlined in Fuller (1980) (Ref 20), which provided a method for assessing the ornithological interest of sites for conservation during the bird breeding season, based on the number of species present.

Table 3-1: Breeding species diversity criteria (Fuller, 1980)

Local	County	Regional	National
25-49 species	50-69 species	70-84 species	85+ species

- 3.4.7 It should be noted that Fuller's analysis was developed in the 1970s and, since then, species diversity has declined significantly. As a result, Fuller's thresholds are, in most circumstances, too high for today's breeding bird populations. However, it is not considered that the differences would be sufficient to increase the geographical scale at which the assemblages are considered to have value.

Importance of the breeding bird population

- 3.4.8 An essential prerequisite step to allow ecological impact assessment of the Scheme was an evaluation of the relative biodiversity importance of the Survey Area for breeding birds. This is necessary to set the terms of reference for any subsequent ecological impact assessment.
- 3.4.9 The method of evaluation that was utilised has been developed with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (Ref 21). This gives guidance on scoping and carrying out environmental assessments and places appraisal in the context of relevant policies and at a geographical scale at which each feature matters (i.e. international, national, regional, county, district, local or site). Data received through desk study and field-based surveys were used and evaluated on species rarity, abundance and diversity within the Survey Area to assess the biodiversity importance of the breeding bird populations recorded during the field surveys. Professional judgement was also applied where necessary. Relevant published national and local guidance and criteria can be used, where available, to inform the assessment of biodiversity importance and to assist consistency in evaluation.

3.5 Assumptions and Limitations

- 3.5.1 There were no limitations with the survey undertaken. Therefore, it is considered that sufficient representatives of all habitat types have been covered within the entirety of the breeding survey period, to allow for a comprehensive assessment of bird species and assemblages present.

3.6 Quality Assurance

- 3.6.1 AECOM Ecologists are members, at the appropriate level, of the CIEEM and follow their code of professional conduct when undertaking ecological work.
- 3.6.2 AECOM is BS EN ISO 9001:2015, BS EN ISO 14001:2015 and OHSAS 18001:2007 Health and Safety accredited.

4. Results

4.1 Desk Study

4.1.1 The data search, undertaken through WSBRC, returned records of 36 bird species from within the Study Area and from the preceding ten years, including records of specially protected or notable bird species (see Section 2).

4.1.2 Of these 36 bird species (some of which are on more than one list):

- 11 are specially protected species listed in Annex 1 of the Birds Directive (Ref 3) or on Schedule 1 of the WCA, 1981 (as amended) (Ref 1);
- 17 species are listed as a SPI in the UK (Ref 6) and Wiltshire (Ref 9);
- 22 species are included on the BoCC Red List (Ref 11, Ref 12); and
- six species are included on the BoCC Amber List (Ref 11, Ref 12).

4.2 Field Survey

4.2.1 Forty-eight species were recorded during surveys of breeding birds between April and August 2024. A summary of the breeding and conservation status of the 48 species recorded during the surveys, with the numbers of territories identified (or thought likely in the case of probable and possible records) is provided in Table 4-1.

4.2.2 Of the 48 species recorded within the Survey Area, territories of 25 species were confirmed and territories of a further five species were considered to be probable or possible within the Survey Area, resulting in a breeding bird assemblage of 30 species. Records relating to the remaining 18 species were of non-breeding species.

4.2.3 From the breeding assemblage of 30 species, recorded during field surveys (some of which are on more than one list), it was found that:

- no specially protected species that are listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 1) or in Annex 1 of the Birds Directive (Ref 3);
- four species are listed as a SPI in the UK (Ref 6) and in Wiltshire (Ref 9);
- two species are included on the BoCC Red List (Ref 11, Ref 12); and
- seven species are included on the BoCC Amber List (Ref 11, Ref 12).

Table 4-1: Breeding status, number of territories and conservation designations of birds recorded within the Survey Area

Species (Common Name)	Scientific Name	Conservation Designation (where applicable)	Breeding territory status	Number of territories (where applicable)	Supporting Notes
Canada Goose	<i>Branta canadensis</i>	-	Non-breeding	-	-
Mallard	<i>Anas platyrhynchos</i>	BoCC Amber	Non-breeding	-	Flying over the Site in May and June 2024.
Pheasant	<i>Phasianus colchicus</i>	-	Confirmed	1	-
Little Egret	<i>Egretta garzetta</i>	Annex 1	Non-breeding	-	Flying over the Site in June 2024.
Cormorant	<i>Phalacrocorax carbo</i>	-	Non-breeding	-	-

Species (Common Name)	Scientific Name	Conservation Designation (where applicable)	Breeding territory status	Number of territories (where applicable)	Supporting Notes
Red Kite	<i>Milvus milvus</i>	Annex 1, WCA Sch. 1	Non-breeding	-	Single bird recorded in April, May and June but no evidence of a pair or of any breeding behaviour.
Buzzard	<i>Buteo buteo</i>	-	Non-breeding	-	-
Moorhen	<i>Gallinula chloropus</i>	BoCC Amber	Confirmed	1	Occupying a small water body in the western end of the Site.
Lesser Black-backed Gull	<i>Larus fuscus</i>	BoCC Amber	Non-breeding	-	Flying over the Site in May 2024.
Barn Owl	<i>Tyto alba</i>	WCA Sch. 1	Non-breeding	-	Not recorded during surveys of breeding birds, but recorded hunting over the Site in August 2024 during surveys of bat activity.
Stock Dove	<i>Columba oenas</i>	BoCC Amber	Confirmed	1	Single territory in Frith Copse, immediately east of the Site.
Woodpigeon	<i>Columba palumbus</i>	BoCC Amber	Confirmed	4	Occupying woodland, hedges and trees.
Collared Dove	<i>Streptopelia decaocto</i>	-	Confirmed	2	-
Great Spotted Woodpecker	<i>Dendrocopos major</i>	-	Confirmed	2	-
Green Woodpecker	<i>Picus viridis</i>	-	Non-breeding	-	-
Jay	<i>Garrulus glandarius</i>	-	Probable	(1)	-
Magpie	<i>Pica pica</i>	-	Possible	(1)	-
Jackdaw	<i>Coloeus monedula</i>	-	Non-breeding	-	-
Rook	<i>Corvus frugilegus</i>	BoCC Amber	Non-breeding	-	Flocks recorded foraging in fields only.
Carrion Crow	<i>Corvus corone</i>	-	Possible	(1)	-
Raven	<i>Corvus corax</i>	-	Non-breeding	-	-
Blue Tit	<i>Cyanistes caeruleus</i>	-	Confirmed	16	-
Great Tit	<i>Parus major</i>	-	Confirmed	15	-
Skylark	<i>Alauda arvensis</i>	SPI, BoCC Red	Confirmed	6	Three territories in the north of the Site and three in the south.
Swallow	<i>Hirundo rustica</i>	-	Confirmed	1	-

Species (Common Name)	Scientific Name	Conservation Designation (where applicable)		Breeding territory status	Number of territories (where applicable)	Supporting Notes
Long-tailed Tit	<i>Aegithalos caudatus</i>	-		Probable	(1)	-
Willow Warbler	<i>Phylloscopus trochilus</i>	BoCC Amber		Confirmed	1	Single territory centred around a hedgerow in the south of the Site.
Chiffchaff	<i>Phylloscopus collybita</i>	-		Confirmed	17	-
Blackcap	<i>Sylvia atricapilla</i>	-		Confirmed	6	-
Lesser Whitethroat	<i>Sylvia curruca</i>	-		Confirmed	2	-
Whitethroat	<i>Sylvia communis</i>	-		Confirmed	3	-
Goldcrest	<i>Regulus regulus</i>	-		Non-breeding	-	-
Wren	<i>Troglodytes troglodytes</i>	BoCC Amber		Confirmed	15	Found within hedgerows, scrub and woodland.
Nuthatch	<i>Sitta europaea</i>	-		Confirmed	1	-
Blackbird	<i>Turdus merula</i>	-		Confirmed	13	-
Song Thrush	<i>Turdus philomelos</i>	SPI, Amber	BoCC	Confirmed	4	One territory in the south of the Site and three in peripheral habitat, outside of the Site.
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red		Non-breeding	-	Single bird in April 2024 only.
Robin	<i>Erithacus rubecula</i>	-		Confirmed	19	-
Redstart	<i>Phoenicurus phoenicurus</i>	-		Non-breeding	-	-
Wheatear	<i>Oenanthe oenanthe</i>	BoCC Amber		Non-breeding	-	Passage bird recorded in May 2024.
House Sparrow	<i>Passer domesticus</i>	SPI, BoCC Red		Possible	(1)	Associated with agricultural buildings in the centre of the Site.
Dunnock	<i>Prunella modularis</i>	SPI, Amber	BoCC	Confirmed	11	Found within hedgerows, scrub and woodland.
Pied Wagtail	<i>Motacilla alba</i>	-		Confirmed	1	-
Chaffinch	<i>Fringilla coelebs</i>	-		Confirmed	10	-
Greenfinch	<i>Chloris chloris</i>	BoCC Red		Confirmed	1	-
Linnet	<i>Linaria cannabina</i>	SPI, BoCC Red		Non-breeding	-	Pair flew over the Site in May 2024.
Goldfinch	<i>Carduelis carduelis</i>	-		Confirmed	3	-
Reed Bunting	<i>Emberiza schoeniclus</i>	SPI, Amber	BoCC	Non-breeding	-	Male seen in May 2024 only.

5. Evaluation

- 5.1.1 The desk study and field surveys were used to determine the importance of the Site for breeding birds and this is presented in the following section.

5.2 Specially Protected Species

- 5.2.1 The data search, undertaken through WSBRC, returned records of 11 bird species listed in Annex 1 of the Birds Directive (Ref 3) or on Schedule 1 of the WCA (Ref 1), of which only Barn Owl was recorded within the Site and as a non-breeding species.
- 5.2.2 Little Egret and Red Kite were recorded during field surveys, but as non-breeding species. Little Egret was recorded on a single occasion flying over the Site in June 2024. A single Red Kite, although recorded on three surveys, was only recorded foraging or flying over the Site and there was no evidence of breeding behaviour or of a pair of birds being present.

5.3 Species of conservation importance

SPI

- 5.3.1 The desk study identified 17 bird species that are listed as SPI prepared under Section 41 of the NERC Act 2006 (Ref 6). Of these 17 species, Skylark and House Sparrow were the only SPI recorded within the Study Area and also holding breeding territories within the Site (as recorded during field surveys). The remaining 15 species were not recorded during field surveys, either because the Site is outside of their geographical breeding range in the UK or because the habitat within the Site is not suitable to support these species.
- 5.3.2 Dunnock, although not recorded during the desk study, was recorded holding breeding territories within the Site during field surveys.

Birds of Conservation Concern

- 5.3.3 Inclusion on the BoCC Red or Amber list does not confer any statutory protection. However, the species reported below are all of conservation importance and considered to be under varying levels of threat in a UK context.

Red List species

- 5.3.4 The desk study identified 22 bird species that are listed on the BoCC Red List (Ref 11, Ref 12);). Of these 22 species, Skylark and House Sparrow were the only BoCC Red-listed species that were recorded within the Study Area and also holding breeding territories within the Site (as recorded during field surveys). The remaining 20 species were not recorded during field surveys, either because the Site is outside of their geographical breeding range in the UK or because the habitat within the Site is not suitable to support these species.
- 5.3.5 Greenfinch, although not recorded during the desk study, was recorded holding a breeding territory within the Site during field surveys.

Amber list species

- 5.3.6 The desk study identified six bird species that are listed on the BoCC Amber list (Ref 11, Ref 12);) and field surveys identified seven species with confirmed or probable / possible breeding territories within the Site, these being: Moorhen, Stock Dove, Wood Pigeon, Willow Warbler, Wren, Song Thrush and Dunnock.

5.4 Species abundance

- 5.4.1 In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and conservation value, consideration has to be given to the value of a site for

the population of individual species that it supports. This can be done by comparing the population present within the Site with the national and county breeding populations for that species.

- 5.4.2 No species were present within the Site in numbers of national significance, i.e., 1% or more of the UK population, when compared to national population estimates as presented in Woodward et al., (Ref 17).
- 5.4.3 County population estimates for some of the species afforded special statutory protection and/or of conservation importance are not available. Whilst the majority of species of conservation importance that were recorded within the Site are declining in the UK, most remain widespread within Wiltshire.
- 5.4.4 Using professional judgement, the number of territories of individual species recorded were all low and do not represent significant proportions (i.e. 1 % or more) of the county breeding populations in Wiltshire. Therefore, the Site is of no more than Local importance for breeding birds.

5.5 Species Diversity

- 5.5.1 To measure species diversity, the breeding assemblage (30) recorded in the Site was evaluated against the criteria developed by Fuller (see Table 3-1). The breeding assemblage would regard the value of the Site as being of Local importance for breeding birds.

5.6 Species Distribution

- 5.6.1 The location of territories of SPI and BoCC Red and Amber-listed bird species (see Table 4-1) are presented in Figure 1 in Annex A of this report. In general, territories of species were found within the most suitable habitats to support each individual species' needs (i.e., species reliant on woodland habitat were found within woodland habitat in the Site, etc.).

6. Conclusions

- 6.1.1 A breeding bird assemblage of 30 species was recorded within the Site in 2024. From the breeding assemblage of 30 bird species, 12 species meet at least one of a range of criteria relating to conservation importance, as detailed in Section 2 of this report.
- 6.1.2 No species are present within the Site in numbers of national or county significance, i.e. 1% or more of the UK or county population.
- 6.1.3 No specially protected bird species, owing to inclusion on Schedule 1 of the Wildlife and Countryside Act, were holding territory within the Site.
- 6.1.4 Species diversity for the Site is of Local importance.

7. Outline Mitigation Proposals

7.1 Habitat Retention and Creation

- 7.1.1 The Scheme will incur some loss of habitats used by breeding birds and increase habitat fragmentation and therefore it is important that mitigation measures are included to alleviate these effects and habitat creation and enhancement are included, as far as is reasonably practicable. It is recommended that any habitat loss should be mitigated for with the minimum objective of conserving a similarly diverse assemblage of breeding birds to that which is already present within the Site.
- 7.1.2 The Scheme has been designed to retain habitats of importance to the majority of breeding birds, such as woodland habitats and hedgerows that are important to species of conservation concern such as Song Thrush and Dunnock. Where possible, new planting that is incorporated into any landscape design, could comprise mixed native species including Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa* to provide foraging, roosting and breeding habitat for birds in the summer months, along with foraging and roosting habitat for birds in the winter months.
- 7.1.3 Areas of open habitat have been retained for Skylark, a ground-nesting bird species. Existing grassland habitat within the Site is grazed on rotation, meaning it is often of a temporary nature for its suitability to support nesting Skylark during the breeding season. Areas will be retained and enhanced as permanent grassland habitat, which will be beneficial to invertebrates and species (such as Skylark) that prey on them. Grassland habitat within and around the solar arrays will also provide permanent long-term opportunities for Skylark (and other ground-nesting species) to nest and forage, undisturbed, throughout the duration of the breeding season and without the interference of agricultural practices (e.g. grazing or cutting). Whilst Skylark are unlikely to nest beneath the solar arrays, research papers indicate that Skylark will incorporate solar farms into their territorial boundaries. Areas of open grassland will, therefore, provide permanent habitat for Skylark to nest throughout the breeding season, with grassland around the solar arrays also suitable for foraging. Therefore, this will sustain the current population of Skylark in the local area through an increase in productivity.
- 7.1.4 Providing artificial nest boxes on retained trees within the Site will be of benefit to declining species of conservation concern, such as Stock Dove. Consideration should also be given to the inclusion of artificial boxes on buildings outside of the Site, for declining species of conservation concern that nest on buildings, such as Starling, House Sparrow, Swift and House Martin.

7.2 Timing of Vegetation Clearance

- 7.2.1 It is presumed that the construction of the Scheme will be undertaken in a phased approach over many months. Therefore, where vegetation clearance works are proposed within the bird breeding season, then the following measures should be implemented to mitigate for potential impacts to breeding birds, associated with construction activity of the Scheme.
- 7.2.2 Any construction activity, including vegetation clearance, undertaken outside of the typical bird breeding season (i.e. with vegetation clearance undertaken between September and February, inclusive) would not be legally constrained by nesting birds. Therefore, it is recommended, where possible, that vegetation removal is undertaken within this period.
- 7.2.3 If it is not possible to undertake vegetation clearance outside of the typical bird breeding season (i.e. where works are planned between March and August inclusive), then it will be necessary for a suitably qualified ornithologist, acting as an Ecological Clerk of Works (ECoW) to conduct a survey for nesting birds in advance of planned clearance works. Typically, this survey will be undertaken 24 hours ahead of any planned clearance works.
- 7.2.4 Should active bird nests be discovered by the ECoW, then appropriate measures will be put in place to ensure that any nest found is not disturbed. There is no licence available to damage or destroy an active nest of a breeding bird at any time of year.

- 7.2.5 Protective measures, on discovery of an active nest, will involve placing a buffer around the nest within which no works will be undertaken until the nest has been judged, by a suitably qualified ornithologist, to no longer be in use (i.e. fledged young have left the nest or the nesting attempt has failed).
- 7.2.6 The radius of the protective buffer and duration it is imposed will be dependent on the species present and stage of breeding (i.e. with eggs, chicks, etc.). For the majority of birds, this buffer could be in place for up to 30 days (on the assumption of a 'new' nest with recently laid eggs).
- 7.2.7 Where no active nests are located, vegetation clearance must proceed immediately and should be completed within 24 hours of the inspection.

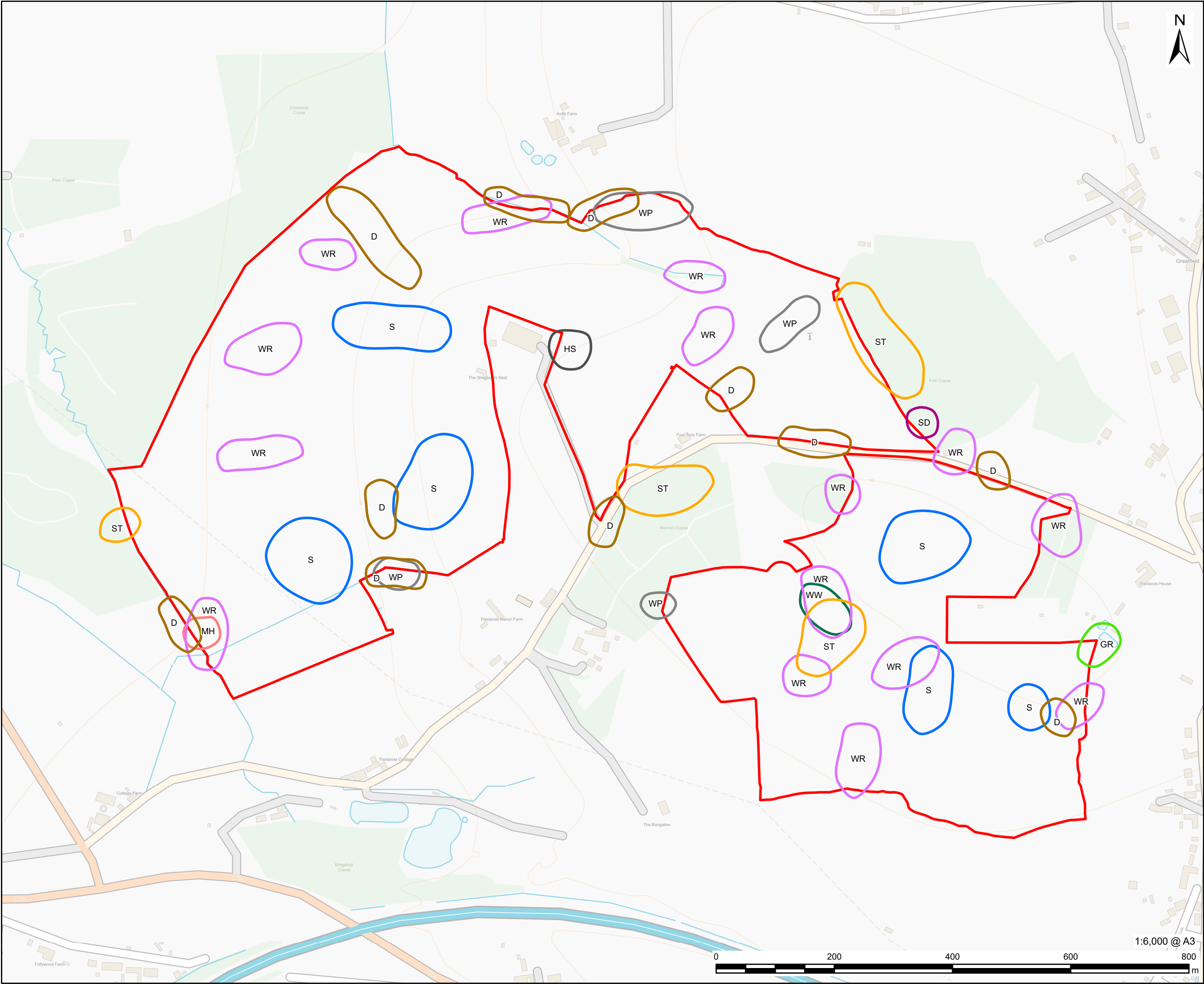
8. References

- Ref 1 His Majesty's Stationary Office (HMSO) (1981). Wildlife & Countryside Act 1981 (as amended). [online] Available at: <https://www.legislation.gov.uk/ukpga/1981/6> [Accessed August 2024]
- Ref 2 HMSO (2000). Countryside and Rights of Way Act 2000. [online] Available at: <https://www.legislation.gov.uk/ukpga/2000/37/contents>. [Accessed August 2024]
- Ref 3 European Council (EC) (2009). Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). EC, Brussels. [online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147>. [Accessed August 2024]
- Ref 4 HMSO (2018). The Conservation of Habitats and Species Regulations 2017. [online] Available at: <http://www.legislation.gov.uk/uksi/2017/1012/contents/made>. [Accessed August 2024]
- Ref 5 HMSO. (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. [online] Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111176573>. [Accessed August 2024]
- Ref 6 HMSO (2006). The Natural Environment and Rural Communities Act 2006. [online] Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents>. [Accessed August 2024]
- Ref 7 Joint Nature Conservation Committee (JNCC) on behalf of the Four Countries' Biodiversity Group. (2024). UK Biodiversity Framework. [online] Available at: <https://data.jncc.gov.uk/data/19a729f6-440e-4ac6-8894-cc72e84cc3bb/uk-biodiversity-framework.pdf>. [Accessed August 2024]
- Ref 8 HMSO (1994). Biodiversity: The UK Action Plan. [online] Available at: <https://assets.publishing.service.gov.uk/media/5a7ced59ed915d2017106d17/2428.pdf>. [Accessed August 2024]
- Ref 9 Wiltshire Biodiversity Action Plan 2008 [online] Available at: <https://www.wiltshirewildlife.org/sites/default/files/2022-08/wiltshirebap2008%281%29.pdf> [Accessed August 2024]
- Ref 10 HMSO (2021). Environment Act 2021. [online] Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>. [Accessed August 2024]
- Ref 11 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D and Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.
- Ref 12 Stanbury, A., et al. (2024) The status of the UK's breeding seabirds: an addendum to the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 117: 471-487
- Ref 13 The International Union for Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. [online] Available at: <https://www.iucnredlist.org/en>. [Accessed August 2024]
- Ref 14 AECOM (2024). Preliminary Ecological Appraisal Report: Flaxlands Solar Farm. June 2024

- Ref 15 Gilbert G., Gibbons D.W., and Evans J. (1998) Bird Monitoring Methods: A manual of techniques for key UK species. RSPB, Bedfordshire.
- Ref 16 Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). Bird Census Techniques: 2nd edition. Academic Press, London.
- Ref 17 Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. British Birds 113: 69-104
- Ref 18 Balmer, D., Gillings, G., Caffrey, B., Swann, B., Downie, I. and Fuller, R., (2013). Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland
- Ref 19 Eaton M. and the Rare Breeding Birds Panel (2022) Rare breeding birds in the United Kingdom in 2020. British Birds 115, 623-686
- Ref 20 Fuller, R.J. (1980). A Method for Assessing the Ornithological Interest of Sites for Conservation. Biological Conservation 17, 229-239
- Ref 21 Chartered Institute of Ecology and Environmental Management (CIEEM) (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. CIEEM, Winchester

Annex A: Figures

Figure 1 Distribution of Species of Conservation Concern



- LEGEND**
- Site Boundary
 - Breeding Species Territories
 - Moorhen (MH) - [terr. 1]
 - Stock Dove (SD) - [terr. 1]
 - Woodpigeon (WP) - [terr. 4]
 - Skylark (S) - [terr. 6]
 - Willow Warbler (WW) - [terr. 1]
 - Wren (WR) - [terr. 15]
 - Song Thrush (ST) - [terr. 4]
 - House Sparrow (HS) - [terr. 1]
 - Dunnock (D) - [terr. 11]
 - Greenfinch (GR) - [terr. 1]

NOTES

Service Layer Credits: emapsite Inside View
WMS:
Contains Ordnance Survey Data © Crown
Copyright and database right 2024.

ISSUE PURPOSE
FINAL

PROJECT NUMBER
60727989

FIGURE TITLE
Distribution of Species of Conservation
Concern

FIGURE NUMBER
Figure 1

