PAP/2023/0071

BIODIVERSE
CONSULTING

NAILCOTE FARM

ORNITHOLOGICAL IMPACT ASSESSMENT

FOR: ENVIROMENA C/O STANTEC

REF: BIOC22-184 | V1

CLIENT	PROJECT	
C/O Amy Hindson (Stantec) Enviromena Project Management UK Ltd.	Project Name:	Nailcote Farm BBS
	Project code:	BioC22-184
	Prepared by:	Callum Goodwin MSc
	Reviewed by:	Siobhan Bailey BSc CIEEM QUAL
	Approved by:	Victoria Mordue MSc MIoD AIEMA
	Date:	October 27, 2023

DOCUMENT CONTROL

VERSION	DATE	CHANGES	CONFIDENTIALITY	PREP	REV	AUTH
V1.0	27/10/2023	Initial to client.	N/A	CG	SB	VM

CLIENT AGREEMENT

This report is issued to the Client for the purpose stated in the Agreement between the Client and Biodiverse Consulting Ltd (the "Engagement Terms"), under which this work was undertaken. The report may only be used and, in particular relied upon, for the specific purpose in relation to which the Services were commissioned and agreed by Biodiverse Consulting to be provided.

The content of the report should be read subject to any assumptions that are referred to in the description of the Services specified in the Engagement Terms.

Copyright remains with Biodiverse Consulting Ltd subject to the licenced rights granted to the Client to reproduce and use the report as provided for in the Engagement Terms. The report is only intended for the Client and must not be relied upon or reproduced by anyone other than the Client without the express written agreement of Biodiverse Consulting Ltd. The use of this report by unauthorised persons is at their own risk. Biodiverse Consulting Ltd accepts no duty of care to any such party.

FIELD INVESTIGATIONS, DATA & REPORTS

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of work within the scope of the Services. Where any data supplied by the client or from other sources [requested to be taken into account by the Client] have been used it has been assumed that the information is correct. No responsibility can be accepted by Biodiverse Consulting Ltd. for inaccuracies in the data supplied by any other party. Furthermore, the findings and any recommendations contained within the report and all assessments and opinions of Biodiverse Consulting Ltd expressed in the report are based entirely on the facts and circumstances at the time the specific tasks requiring reliance on particular facts or circumstances were undertaken or in certain cases at the date of completion of the report.

DECLARATION OF COMPLIANCE

"The information which we have prepared and which form the content of this report is provided on a basis that to the best of the knowledge and belief of the director(s) of Biodiverse Consulting is accurate. The Services provided and this Report have been undertaken in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed within this document are our true and professional bona fide opinions". It must be noted that none of the information provided within this report constitutes legal opinion.

STATUTORY DISCLOSURE OBLIGATION

Where required to do so by law or regulatory authority, Biodiverse Consulting Ltd may disclose any information obtained from the Client to a third party. Should Biodiverse Consulting Ltd become aware that the Client has breached or is likely to breach legislation relating to wildlife or the environment, Biodiverse Consulting Ltd will be entitled to disclose such information to the relevant authority, including the relevant governmental body or the police.

THIRD PARTY DISCLAIMER

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Biodiverse Consulting at the instruction of, and for sole use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. No other warranty, expressed or implied is made as to the professional advice included in this report that may be relied upon by a third party.

EXECUTIVE SUMMARY

Biodiverse Consulting Ltd was commissioned in May 2023 to undertake breeding bird surveys surveys and assessment of land near Meriden Road, Fillongley, North Warwickshire at an approximate central grid reference of SP 27600 86054.

The development proposals comprise a temporary, ground-mounted solar photovoltaic ('PV') farm scheme with associated infrastructure. This document reports on the key ecological constraints and opportunities of the proposed development in regard to Ornithology. The table below presents a summary of findings.

ECOLOGICAL CONSIDERATIONS FOR WOOLPOTS SOLAR PROPOSAL	
Designated Sites	There are no statutory or non-statutory designated sites within 2 km of the site and no European or Internationally designated sites within 7 km of the site.
Breeding Bird Assemblage	A total of 12 Species of Conservation Concern species were recorded during the breeding bird surveys. All 12 of these species were identified as using the site.
Assessment	The assessment of potential effects of the development concluded that, subject to appropriate mitigation, compensation and enhancement measures, there would be no adverse effects on bird assemblages at the site. The development has the potential to afford long-term benefits for birds.
Recommendations	Recommendations are made in order to reduce the impact of the development on its ornithological assemblage through the mitigation hierarchy of avoidance, mitigation, and compensation.

CONTENTS

1 INTRODUCTION

1.1 SITE LOCATION & DESCRIPTION

The site is located near Meriden Road, Fillongley, North Warwickshire at an approximate central grid reference of SP 27600 86054. The site currently consists of arable fields bounded by hedgerows and trees. Watercourses run through the site including Bourne Brook to the west. A small area of woodland lies in the south-east and dirt track runs parallel to the southern boundary.

FIGURE 1: SITE LOCATION

1.2 REPORT OBJECTIVES

The aim of this report is to determine the potential ornithological constraints and opportunities to development. The objectives of this report are to:

- Describe the methods and results of ornithological surveys.
- Determine the value of ornithological features associated with the proposed development.
- Assess the potential impacts of the proposed development on ornithological features and identify appropriate mitigation and/or compensation.
- Assess the potential impacts on designated sites assigned for their ornithological value.

1.3 DEVELOPMENT PROPOSALS

The site is proposed to be developed into a ground-mounted solar photovoltaic ('PV') farm with associated infrastructure including a substation, and transformers based on Drawing number: P.NailcoteFarm_01_GeneralLayout Rev F at the date of the production of this report.

2 METHODOLOGY

2.1 STUDY SCOPE

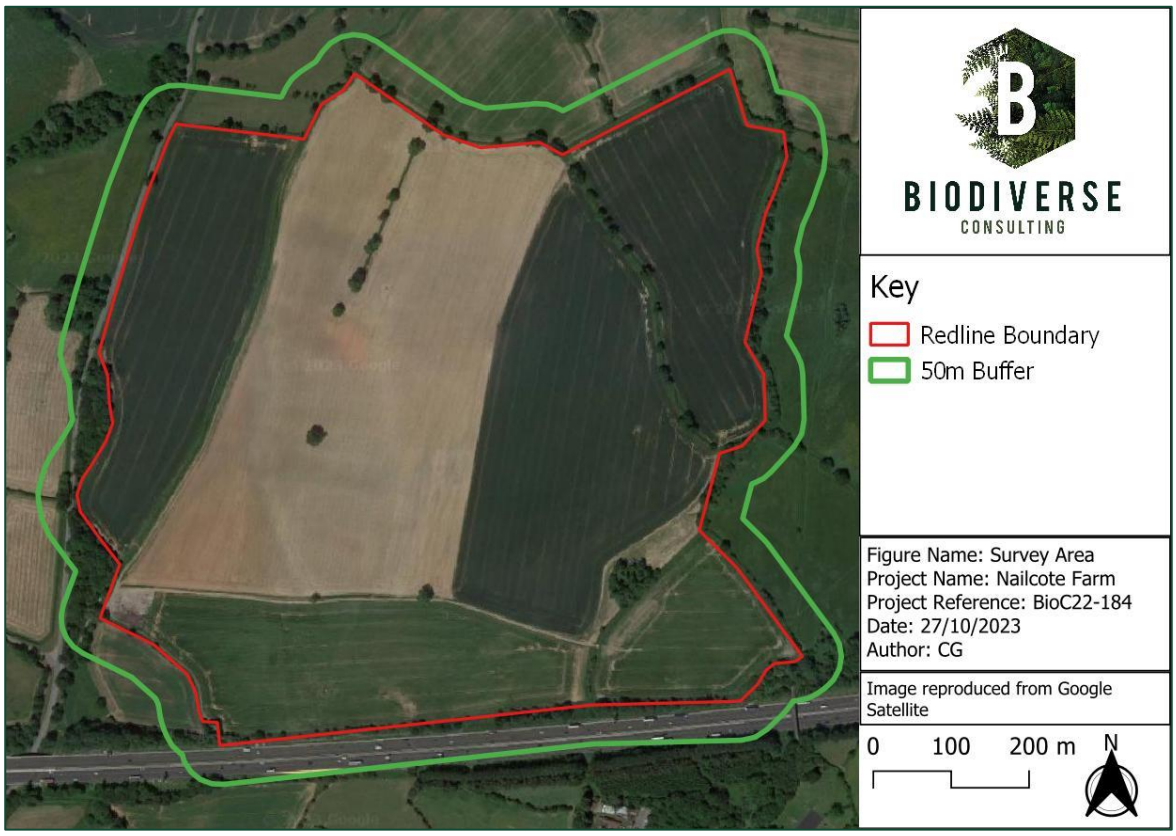
Initial survey and assessment established that the site and immediate surroundings have the potential to support breeding birds. Further survey and assessment were proposed to establish a baseline for breeding birds. This report describes the methods and results of this study and provides an assessment of potential ecological impacts on ornithological features.

This report has been written with reference to a previously written Preliminary Ecological Appraisal – Arbtech Consulting Ltd.[1]

2.2 SURVEY AREA

The survey area comprised the 'site' (Figure 2) and, where access was available, a 250m buffer that aimed to cover adjacent habitats.

FIGURE 2: SURVEY AREA



[1] Preliminary Ecological Appraisal Land at Nailcote Farm – Arbtech Consulting Ltd. – January 2023

2.3 DESK STUDY

A desk study was undertaken to obtain pre-existing ecological information relevant to the assessment. The desk study included:

- An assessment of aerial imagery and Ordnance Survey mapping.
- A search of the MAGIC website[2] for designated sites and European Protected Species within 2 km of the site, as well as SPA and Ramsar within 7 km.
- A request to the British Trust for Ornithology (BTO) for bird data relating to the site including a 1 km buffer.
- A request to the Local Record Centre (LRC) for records of and protected and priority species.

2.4 FIELD SURVEY

Table 1 provides a summary of the ornithological field surveys undertaken. Full details of each survey are provided in the subsequent sections. All surveys were undertaken by suitably experienced ecologists/ornithologist; full details are available on request.

TABLE 1: SURVEY SUMMARY

SURVEY TYPE	DATE	TEMP	PRECIPITATION	WIND[3]	VISIBILITY	TIME
Preliminary Walkover	01/12/2022	5°C	None	BF1	N/A	N/A
BBS 1	09/06/2023	12°C	None	BF3 NE	>50m	05:30-09:00
BBS 2	26/06/2023	15°C	None	BF1 W	>50m	05:30-09:00

2.4.1 Breeding Bird Surveys

The survey area was subject to Breeding Bird Surveys (BBS) following a version of the Bird Survey Guidelines Breeding bird survey methodology[4]. A two-visit survey was undertaken in June 2023 (see Table 1).

A surveyor walked a transect through all habitats in the survey area. Some habitats were observed with a scope or binoculars such as open grassland and arable fields. The surveyor noted bird activity

[2] Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)
[3] Beaufort wind force scale: https://www.metoffice.gov.uk/weather/guides/coast-and-sea/beaufort-scale
[4] Bird Survey Guidelines - https://birdsurveyguidelines.org/data/species-mapping/ - accessed October 2023
*Amber-listed Species, Woodpigeon and Wren are not considered to be a SoCC as a result of their abundance nationally.

for species of conservation concern* (SoCC) seen or heard and recorded activity on field maps, identifying a range of behaviours (e.g. singing, alarm calling, carrying food etc.).

Surveys were undertaken during early morning but avoided the first hour before sunrise. Surveys were undertaken in favourable weather conditions, avoiding periods of rain, high winds (greater than force 5) and poor visibility.

2.5 ANALYSIS

2.5.1 Breeding Bird Survey

Data analysis focused on identifying what SoCC are using the site for breeding (either nesting on site and/or nearby with the site used for foraging/roosting). This included any bird species matching one or more of the following criteria:

- Schedule 1-listed species on the Wildlife and Countryside Act 1981 (as amended).
- Annex I-listed species on the Birds Directive.
- Species of Principal Importance listed on the NERC Act 2006.
- Red and Amber-listed birds of conservation concern.

A field map was generated during each survey visit identifying all SoCC and activities recorded. Following the final visit, these registrations were transferred to a GIS programme, enabling each map to have a separate “layer”, allowing all to be reviewed on a single map. From this single map, clusters of registrations are identified to indicate the activity of single birds or groups of birds.

The breeding bird map presented in this report (see Appendix A) has the species code recorded around the centre of its observed location. If a species was not recorded as displaying breeding behaviour, the potential for the species to be breeding on site or nearby was determined on the basis of the suitability of habitats and the ecology of the species. If the same species was recorded within a similar area across multiple visits, the species code within the map was presented at an average central point between the observations. If groups of the same species were recorded in similar areas across multiple visits, again the species code was presented at a central point and the highest peak count from any visit is presented adjacent to the species code.

The methodology of recording individuals rather than just breeding territories was undertaken to include species reliant on the habitats for foraging but are not necessarily breeding in the survey area.

2.5.2 BTO Data

The BTO report analyses comprehensive (2007-2011) bird data relating to 10 km grid squares that span the entirety of the UK. The analysis identifies bird species within 10 km grid square in which the site resides that are classified as ‘notable’. Notable species are defined as those in

which a relatively significant proportion of the species total range or total abundance has been recorded within the 10 km grid square the site exists in.

The notable species are considered in regards the context of the site (i.e., the suitability of habitats on or adjacent to the site). Species identified as having the potential to utilise habitats on site, and in turn are at risk of being impacted by the development, have then been assessed further. The remaining species are scoped out of further assessment.

Additionally, contemporary (2019-2023) bird data is compiled into a table indicating whether SoCC have been identified within 2 km of the site buffer.

2.6 LIMITATIONS TO SURVEY

Surveys are a snapshot in time and some species may not have been observed. A precautionary approach has been taken to identify breeding species not recorded but likely to be present, based on a consideration of factors such as prevailing weather, suitability of habitats and BTO data.

Due to seasonal constraints and commission timing, only 2 survey visits were carried out. To compensate for the reduced survey effort, BTO data and LRC data has been requested to support the BBS results and ensure the assessment of the site in regard to ornithology remains robust as far as possible.

Outside of the site boundary, access was restricted to Public Rights of Way (PRoW); however, observing from each PRoW and scanning adjacent areas from within the site offered good coverage of much of the appropriate buffer area.

Despite the limitations identified, the surveys and desk study combined provide a reliable baseline for the assessment of impacts to birds associated with the site.

2.7 ASSESSMENT

The value of specific ecological features is assigned using a geographic frame of reference in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) (Appendix C).

3 RESULTS

3.1 DESK STUDY

3.1.1 Designated Sites

There are no statutory or non-statutory designated sites within 2 km of the Site and no European or Internationally designated sites within 7 km of the site. The nearest site with bird interest, Tilehill Wood SSSI, is located approximately 6.5 km south of the site. The SSSI is managed as a bird sanctuary. Given the distance, features of the designated site and nature of development, adverse effects from the development can be ruled out.

3.1.2 BTO

A list of species identified as 'notable' within the 10 km grid square that the site exists within has been provided within the BTO report. These species have been classified as notable in regard to breeding and wintering ranges/abundances in comparison to the country, region, county and the vice-county. Species include Schedule 1, Annex 1, NERC and Red/Amber listed species such as Willow Tit, Ringed Plover and Tawny Owl.

A summary of contemporary (2019-2023) bird data relating to the site, including records of birds considered to be SoCC provided by the BTO was collated into a table shown in Appendix D.

All relevant records are discussed in the results sections below, the full BTO Report and data can be supplied upon request.

3.1.3 LRC

A summary of recent (2013 – present) records including ornithological species considered to be SoCC provided by the LRC has been received. A full data set can be supplied upon request.

3.2 FIELD SURVEY

3.2.1 Breeding Bird Survey

A total of 12 SoCC species were recorded during the BBS (see Table 2) (see Appendix A).

TABLE 2: SPECIES IDENTIFIED BBS

SPECIES*	BTO CODE	PEAK NO. OF INDIVIDUALS ON SITE	REASON FOR PRIORITISATION	COMMENTS
Barn Owl	BO	1	Schedule 1 Species	Perched in tree line
Dunnock	D.	1	NERC Species	Utilising and singing from tree line adjacent to site
Kestrel	K.	1		Perched within site and flew towards motorway
Linnet	LI	1	NERC Species	Utilising and calling from hedgerow with trees on site
Mistle Thrush	M.	1		Singing from woodland surrounding shooting copse on site
Reed Bunting	RB	3	NERC Species	Adult and two juveniles utilising brook running through site
Rook	RO	2		Overflying site, a rookery was identified outside of the survey area within woodland to the south-west
Skylark	S.	8		Holding territory on, singing from and foraging in arable fields on site
Song Thrush	ST	1	NERC Species	Singing from hedgerow on site
Whitethroat	WH	3		Utilising, singing and calling from hedgerows and brook on site
Yellow Wagtail	YW	4	NERC Species	Utilising and calling from grassland verges and arable fields on site

SPECIES*	BTO CODE	PEAK NO. OF INDIVIDUALS ON SITE	REASON FOR PRIORITISATION	COMMENTS
Yellowhammer	Y.	4		Utilising and singing from hedgerows and tree lines on site

*Highlighting denotes red-listed, amber-listed and green-listed species of birds of conservation concern.

A further 20 bird species (not of conservation concern) were recorded including Blackbird, Great Tit and Wren, many of which were considered likely to be breeding or holding territory within BBS Areas; however, none were observed in particularly notable numbers or densities.

Of the 12 SoCC recorded, 7 of these were identified primarily utilising hedgerows, tree lines, watercourses, or woodland areas within or immediately adjacent to the site: Dunnock, Linnet, Mistle Thrush, Reed Bunting, Song Thrush, Whitethroat and Yellowhammer. No area or habitat on the site was noted as having a significantly higher activity with species spread evenly throughout.

Yellowhammer was the most abundant of these species with 4 individuals located, all of these were identified within the tree lines to the east of the site.

2 of the species were identified utilising or holding territory within the arable fields on site: Skylark and Yellow Wagtail. Similarly, the identifications were spread evenly through the site with no locations attracting significantly more activity.

A single Kestrel was identified perching within the site and flew south over the M6, although no breeding behaviour was identified, the site has potential to be included within the species foraging range.

Rooks were identified overflying the site, a rookery was identified outside of the survey area in the woodland to the south of the M6. On the first visit (9th June 2023) the rookery was active with ~15 nests counted; however, on the second visit (26th June 2023) it was vacated with just a single bird noted.

A Barn Owl was identified perching within the tree line adjacent to the eastern boundary of the site. An ash tree within the tree line was noted as containing a large rot hole and has the potential to be a nest site. No Barn Owl were identified within the second visit.

4 ASSESSMENT

4.1 ASSESSMENT OF SURVEY FINDINGS

4.1.1 Valuation

The species recorded during the field surveys are an accurate reflection of the bird interests in the survey area, based on the geographic location and habitats present. A review of the available data has identified two Important Ecological Features (IEFs) for inclusion in the assessment:

- Schedule 1 Species.
- Farmland Assemblage (Local/District value).

4.1.2 Potential Effects of the Development

The development has the potential to impact birds during both its construction and operational phases in the following ways:

4.1.2.1 Construction

During the construction stage arable fields and their margins will be impacted as a result of the proposed development. Short sections of hedgerows and tree lines within the site may also be lost.

Work is likely to disturb birds potentially resulting in their displacement. Disturbance may also prevent or disrupt breeding activity within the habitats marked for retention (hedgerows, tree lines, watercourses and woodland) and may impact foraging activity within the site. Works undertaken during the bird breeding season (i.e. between mid-February to August inclusive) have the potential to damage nests and disturb breeding birds and thus give rise to an offence under the Wildlife and Countryside Act 1981 (as amended).

Although most of the hedgerows, tree lines, and watercourse habitats within the site will be retained, construction related disturbance may deter birds from nesting in the retained habitats. Indirect disturbance from noise and visual disturbance may affect normal diurnal rhythms and communications in some bird species.

Habitat loss and disturbance may impact on a number of the species that have been recorded within the site. The majority of the species recorded will, however, have the opportunity to use alternative foraging and/or nesting areas in habitats beyond the site boundary. Disturbance impacts are likely to be temporary in nature and are likely to affect different species to varying degrees depending upon their tolerance.

Further assessment on the specific impacts to the IEF's during the construction phase are described in Sections 4.2 and 4.3.

4.1.2.2 Operation

During the operational stage, change of open field habitats through the introduction of solar panels has the potential to impact ground nesting birds as well as effect foraging habits of several species that have been recorded within the site. However, proper management of retained or newly created habitats beneath and between the solar panels has the potential to provide long-term improved ground nesting and foraging opportunities for such species.

There are some reports of direct mortality of bird species through collision with solar panels, however, many of these reports come from developments outside of the UK with differing scenarios. Although there is a lack of research about the impacts of solar farms, there is an overall understanding that the risk of harm through collision is very low. Therefore, this potential effect is not considered further within this report[5].

Further assessment on the specific impacts to the IEF's during the operational phase are described in Sections 4.2 and 4.3.

4.2 SCHEDULE 1-LISTED BIRD SPECIES

Several Schedule 1 bird species were identified as 'notable' within 10 km grid square that the site exists or were identified within 2 km of the site within the contemporary (2019-2023) bird data. Due to the habitats on site comprising primarily of cropland, the majority of these species have been scoped out of further assessment due to the lack of potential breeding and foraging habitat within the site. Of the remaining species, Red Kite and Barn Owl have been considered for further assessment.

4.2.1 Red Kite

It is considered unlikely that this species would be breeding within the development footprint as a result of the habitats present. Moreover, no evidence of this species was identified within the BBS carried out in 2023. However, the site and surrounding area may form part of the foraging areas for the species.

[5] Taylor, R., Conway, J., Gabb, O. & Gillespie, J. (2019) Potential ecological impacts of ground-mounted photovoltaic solar panels. Available online at: https://www.bsg-ecology.com/wp-content/uploads/2019/04/Solar-Panels-and-Wildlife-Review-2019.pdf. (Accessed Oct 2023)

This bird of prey species is noted for having an extensive foraging range[6](~2-3 km), therefore, changes to foraging habitat during construction and operation is unlikely to have significant impacts. As such, it is assessed that there will be no harm or disturbance caused to these species as a result of the development; therefore, a legal offence is considered unlikely.

Although there are considered to be no adverse effects, a precautionary approach is taken to ensure this. If construction times overlap with the Red Kite breeding season (March to July) a preconstruction check is recommended to confirm if the species are breeding and foraging close to the site and if so, to assess the risk of any construction-related disturbance.

4.2.2 Barn Owl

A Barn Owl was located perched within a tree adjacent to the eastern boundary. It was noted that a mature ash tree within this tree line contained a rot hole that was identified as a Potential Nest Site (PNS). As the PNS is in close proximity to the development footprint there is potential that the species may be impacted (may constitute a legal offence).

Should construction overlap with the breeding season (March – August) a 3 m exclusion zone from the tree line on the eastern boundary is recommended where no construction works are to take place during the breeding season. Furthermore, working times within that area of the site will be limited to daytime hours, in particular avoiding work during dusk and dawn periods.

To mitigate the possibility that construction activity prevents Barn Owl nesting a Barn Owl nest box should be installed in an appropriate tree off site.

During the operational stage, the introduction of solar panels will change the open field habitats and may potentially impact the foraging habitat of Barn Owls. However Barn Owl Trust[7] evidence states Barn Owls have been seen to adapt their hunting style and utilise the solar panels for perch-hunting. Moreover, the proper management of retained and created habitat beneath and between the panels has the potential to provide a greater prey abundance on site.

Barn Owl foraging ranges are noted to be around 1 km during breeding season and up to 4 km during winter[8]. Similar arable habitats to those found on site are widely available in the surrounding area and the resources on site are unlikely to be significantly important to the breeding success of these species.

---

[6] Red Kite Milvus milvus - https://raptormonitoring.org/wp-content/uploads/2015/05/Raptors-2014-Red-Kite.pdf#:~:text=Red%20kites%20usually%20forage%20within%203%20km%2C%20occasionally,the%20nest%20%28Carter%2C%202007%3B%20Davis%20et%20al.%2C%202001%29. (Accessed Oct 2023)

[7] Barn Owl Trust – feedback Issue 66 / Autumn 2021 – Solar Farms

[8] Barn Owl Trust – Barn Owl home range - https://www.barnowltrust.org.uk/barn-owl-facts/barn-owl-home-range/ (Accessed Oct 2023)

If all recommendations for mitigation and compensation are followed as well as good practice measures to protect active nesting sites, it is predicated that there will be minimal harm or disturbance caused to these species as a result of the development; therefore, a legal offence is considered unlikely.

4.3 FARMLAND ASSEMBLAGE

Several species of conservation concern were recorded on and adjacent to the site as breeding or utilising resources during the breeding season. Farmland species such as Linnet, Reed Bunting, Rook, Skylark, Yellow Wagtail, Yellowhammer and Kestrel were recorded in low numbers. Hedgerow and woodland species such as Dunnock, Mistle Thrush, Song Thrush and Whitethroat were similarly recorded in low numbers.

The farmland and hedgerow/woodland species of conservation concern are typical of habitats found on and adjacent to the site, and are collectively considered to be of local value.

Similarly, the BTO report identified some of these farmland and hedgerow species as 'notable', including Tree Sparrow, Meadow Pipet and Reed Bunting with some species that were identified as locally declining such as Dunnock and Starling.

Development impacts to habitats on site have the potential to impact farmland species through loss of nesting, foraging and roosting resources. The impact of solar farms on Skylark in particular is not fully understood; however, recent research by the RSPB shows that the species were found holding territory and likely breeding within several solar developments[9]. The creation and proper management of habitat beneath and between the solar panels has the potential to provide a more consistent, undisturbed habitat for Skylark as well as other nesting and foraging species.

The development will retain and/or enhance much of the hedgerow, tree lines, watercourses and woodland, providing increased nesting, foraging and roosting resources for hedgerow/woodland species such as Yellowhammer, Linnet, Mistle Thrush and Whitethroat.

These species utilise multiple habitats for foraging and could potentially be impacted by loss/change of habitats within the solar footprint. However, the proper management of habitats between and beneath the panels has potential to offer suitable replacement and/or enhanced foraging habitats for these species. Impacts from the development on these species is therefore not considered significant.

Arable habitats are often utilised by gulls, waders and waterfowl although none were recorded during the BBS. Should they use the site similar habitats are widely available in the surrounding

[9] https://community.rspb.org.uk/ourwork/b/biodiversity/posts/bird-use-of-solar-farms-interim-results (Accessed Oct 2023).

area and the resources on site are considered unlikely to be significantly important to the breeding success of these species.

It is understood that the farmland habitats within the site will be maintained until the start of construction and, as such, the baseline condition of the site is not expected to change substantially between completion of the surveys and the start of construction.

Good practice avoidance, mitigation and compensation measures are described in the following section. This is to reduce direct loss or damage of active nests during construction. Furthermore, given the scale of the development it is possible that construction may occur during more than one breeding seasons (March – August) which may cause longer term disturbance to nesting birds. This will be compensated by the enhancement of habitats that will last for the lifetime of the development, improving the nesting and foraging resources for local species.

If all recommendations for mitigation and compensation measures are followed as well as good practice measures to protect active nests, the impact of the development on farmland and hedgerow species is considered to be minor during the construction phase and negligible during operation.

4.4 FUTURE DECOMMISSIONING

Following the operational phase of the development, it will be decommissioned, including the removal of the site infrastructure. Potential impacts of this work on ornithology interests at the site are likely similar to those during construction and, prior to decommissioning, it is recommended that the site is assessed by an ecologist to identify the need for any mitigation or best practice measures, in accordance with prevailing guidance and legislation.

5 RECOMMENDATIONS

5.1 AVOIDANCE

The following measures should be incorporated into the design of the development, including the construction phase, to avoid and reduce impacts on wildlife and the likelihood of legal offences:

- A Construction Ecological Management Plan (CEcMP) addressing all ecological sensitivities on site and expanding on the measures provided below, with a section specifically for ornithology.
- Avoid site clearance works during the nesting bird season (March to August inclusive) unless the site is checked by a Suitably Qualified Ecologist (SQE) and active nests are confirmed to be absent no more than 48 hours before works commence:
    - If nesting birds are found to be present, an appropriate exclusion zone will be established (in discussion with the SQE) surrounding the nest, within which works are excluded, for the duration of the breeding effort.
    - Any active nests will need to be left in situ until a SQE confirms that the nesting attempt has concluded.
- If construction times overlap with Barn Owl breeding season (March to August) a 3 m exclusion zone from the eastern tree line will be established within which works are excluded for the duration of the breeding season. The PNS will be monitored by a SQE and the exclusion zone modified/removed subject to the breeding status of the birds, observed behaviour and/or the nature of the construction works being carried out.
- If construction times overlap with Red Kite breeding season (March to July) a preconstruction check is recommended prior to commencement of works to identify the present status of Red Kite within the site and a 500 m buffer. If identified as nesting, then the following further mitigation will be required:
    - An assessment of the potential for disturbance and, if required, an appropriate exclusion zone to be established surrounding the nest, within which works are excluded, for the duration of the breeding effort.
    - The nest and exclusion zone will be monitored by the SQE and modified/removed subject to the breeding status of the birds, observed behaviour and/or the nature of the construction works being carried out.

5.2 MITIGATION

Mitigation is proposed to reduce the impacts on wildlife that cannot be avoided through design:

- Construction will be undertaken during daylight hours to reduce impacts to nocturnal and roosting birds associated with onsite and adjacent off-site habitats, with particular avoidance to work during dusk and dawn to reduce impacts to Barn Owls.

5.3 COMPENSATION/ENHANCEMENT

Compensation/enhancement is proposed to address the impacts on habitats which cannot be avoided or mitigated:

- Hedgerow, tree line, watercourse and woodland habitats will be retained/enhanced on site to provide resources to a range of birds.
- Habitats beneath and between the panels will be created/managed to provide resources to a range of birds and provide increased potential prey for Barn Owl.
- All created/enhanced habitats will be created and managed in line with recommendations made within a Habitat Management and Monitoring Plan (HMMP).
- Landscape planting to compensate for any tree/shrub loss shall include species native to the local area as well as berry and fruit-bearing species alongside pollinator species, to provide increased foraging opportunities.
- 12no. nest boxes will be provided to increase opportunities for breeding birds. These will be placed in strategic locations around the site, in accordance with good practice guidelines[10], and targeted toward SoCC. All boxes will be made from Woodcrete (or similar), be tree-mounted and placed in clusters to encourage use by target species. Locations of nest boxes will be directed by a SQE during construction. The following specific boxes will be included:
    - Two Barn Owl nest boxes will be installed on mature trees or on poles within the immediate vicinity of the site, in accordance with Barn Owl Trust guidelines[11].
    - One kestrel box will be installed on a mature tree within the site.
    - 10 nest boxes with a range of hole sizes (26-32mm) will be installed on mature trees within the site.

[10] Royal Society for the Protection of Birds (nd) Nestboxes: Find out how to provide, or make, nestboxes for birds in your garden, Available from: www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/ (Accessed Oct 2023)
[11] The Barn Owl Trust. Nestboxes for use on Trees Leaflet No 2. Available from: www.barnowltrust.org.uk/infopage.html (Accessed Oct 2023)

APPENDICES

APPENDIX A – BBS SOCC RESULTS MAP [12]

[12] BTO Bird Species Codes - https://www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf (Accessed October 2023)
* Stanbury et al. (2021) – Birds of Conservation Concern 5 – British Birds Volume: 114

APPENDIX B – POLICY AND LEGISLATION

The Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 198113, as amended by the Countryside and Rights of Way Act (CRoW) 2000[14] and the Natural Environment and Rural Communities Act (NERC) 2006[15], is the main legislation that protects wildlife in Great Britain and is the mechanism for defining and protecting nationally important Sites of Special Scientific Interest (SSSI). The legislation makes it offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection; and
- Pick or uproot any wild plant listed under Schedule 8 of the Act. Schedule 9, Part II of the Act also lists many species for which it is an offence to plant, or otherwise cause to grow, in the wild. Any material containing Japanese knotweed is also identified as controlled waste under the Environmental Protection Act 1990[16] and must be disposed of properly at licenced landfill according to the Environmental Protection Act (Duty of Care) Regulations 1991[17].

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species a Regulations 2017[18] (the 'Habitat Regulations'), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 201919, establish the requirements for protecting sites that are internationally important for threatened

[13] Wildlife and Countryside Act 1981. Available from: https://www.legislation.gov.uk/ukpga/1981/69
[14] The Countryside and Rights of Way Act 2000. Available from: https://www.legislation.gov.uk/ukpga/2000/37/contents
[15] Natural Environment and Rural Communities Act 2006. Available from: https://www.legislation.gov.uk/ukpga/2006/16/contents
[16] The Environmental Protection Act 1990. Available from: https://www.legislation.gov.uk/ukpga/1990/43/contents
[17] The Environmental Protection Act (Duty of Care) Regulations 1991. Available from: https://www.legislation.gov.uk/uksi/1991/2839/made
[18] The Conservation of Habitats and Species Regulations 2017. Available from: https://www.legislation.gov.uk/uksi/2017/1012/contents/made
[19] The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 Available from: https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents

habitats and species – the National Site Network – and thus the requirement for a 'Habitat Regulations Assessment' of plans or developments with potential to affect them.

The Habitat Regulations also establish the strict protection of some species – European Protected Species – and make it an offence to deliberately capture, kill or disturb certain wild animals, and to damage or destroy a breeding site or resting place of such an animal even if the animal is not present at the time.

Natural Environment & Rural Communities (NERC) Act 2006

The NERC Act 200615 places a duty on local planning authorities to have due regard for biodiversity and nature conservation during their operations, and thus ensures that biodiversity is a key consideration in the planning process. The Act also establishes a list of species and habitats of principal importance ('Priority' Species and Habitats) for the conservation of biodiversity.

The Environment Act 2021[20]

The Environment Act 2021 provides a framework for environmental protection in the UK. It is a wide-range piece of legislation affecting many aspects of the natural environment, including biodiversity. The act sets clear targets to halt the decline in wildlife populations through a legally binding target for species abundance by 2030 and a requirement to increase species populations by 10% by 2042. The Act also establishes mandatory requirement for Biodiversity Net Gain in new developments.

Ramsar Convention

The Convention on Wetlands of International Importance especially as Waterfowl Habitat (the 'Ramsar Convention'[21]) provides the only international mechanism for protecting internationally important wetlands; such sites are designated as Ramsar sites. It is government policy that Ramsar sites are afforded the same level of protection as sites in the National Site Network and so they are also subject to HRA.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997[22] establishes the legal protection of important countryside hedgerows, principally ancient and species-rich hedgerows. The Hedgerow Regulations also

[20] The Environment Act 2001. Available from: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted
[21] The Ramsar Convention https://www.ramsar.org/
[22] The Hedgerow Regulations 1997. Available from: http://www.legislation.gov.uk/uksi/1997/1160/contents/made

provide arrangements for planning authorities to protect important hedgerows in the countryside by controlling their removal through a system of notification.

National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) 2021[23] sets out the Government's requirement for the planning system in England and in doing so establishes the framework within which local planning authorities can develop their own planning policies. The NPPF explicitly addresses the conservation and enhancement of the natural environment, including biodiversity, through paragraphs 174–182.

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation (England only)

This Circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England.

Part IV – *Conservation of Species protected by Law* states that the presence of a protected species is a material consideration when considering a development proposal that may result in harm to the species or its habitat and that planning authorities must have regard to European Protected Species protected under the Habitat Regulations.

The presence or otherwise of European Protected Species, and the extent that they may be affected by the proposed development, must be established before the planning permission is determined, otherwise all relevant material considerations may not have been addressed in making the decision.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UK BAP) was developed to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. The UK Post-2010 Biodiversity Framework'[24] succeeded the UKBAP and expired in 2019, but the UKBAP priority species and habitats are retained through the NERC Act 2006. Regional and local BAPs have also been developed for species/habitats of nature conservation importance at regional and local levels.

[23] National Policy Planning Framework 2021. Available from: https://www.gov.uk/government/publications/national-planning-policy-framework--2
[24] UK Post-2010 Biodiversity Framework. Available from: https://hub.jncc.gov.uk/assets/587024ff-864f-4d1d-a669-f38cb448abdc

APPENDIX C – VALUE OF ECOLOGICAL FEATURES

VALUE	EXAMPLES
International	• An internationally designated site or candidate site (SPA, pSPA, SAC, cSAC, pSAC, Ramsar site) or an area which meets the designation criteria for such sites. • Internationally significant and viable areas of a habitat type listed in Annexe 1 of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring, globally threatened species. • A regularly occurring population of an internationally important species, which is threatened or rare in the UK, of uncertain conservation status. • A regularly occurring, nationally significant population/number of any internationally important species.
National	• A nationally designated site (e.g. SSSI, NNR) or a discrete area which meets the published selection criteria for national designation (e.g. SSSI selection guidelines) irrespective of whether or not it has yet been notified. • A viable area of a UK BAP priority habitat, or smaller areas of such habitat which are essential to maintain the viability of a larger whole. • A regularly occurring significant number/population of a nationally important species e.g. listed on the Wildlife and Countryside Act 1981 (as amended). • A regularly occurring population of a nationally important species that is threatened or rare in the county or region. • A feature identified as being of critical importance in the UK BAP.
Regional / County	• Viable areas of key habitat identified in the Regional or County BAP or smaller areas of such a habitat, which are essential to maintain the viability of the larger whole. • Regional/county significant and viable areas of key habitat identified as being of regional value in the appropriate English Nature (now Natural England) Natural Area. • A regularly occurring significant population/number of any important species important at a regional/county level. • Any regularly occurring, locally significant population of a species which is listed in a Regional/County Red Data Book or BAP on account of its regional rarity or localisation. • Sites of conservation importance that exceed the district selection criteria but that fall short of SSSI selection guidelines.
City/District/ Borough	• Areas of habitat identified in a District/City/Borough BAP or in the relevant Natural Area profile. • Sites that the designating authority has determined meet the published ecological selection criteria for designation, including

VALUE	EXAMPLES
	Local Nature Reserves selected on District/City/Borough ecological criteria. • Sites/features that are scarce within the District/City/Borough or which appreciably enrich the District/City/Borough habitat resource. • A diverse and/or ecologically valuable hedgerow network. • A population of a species that is listed in a District/City/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation. • A regularly occurring, locally significant number of a District/City/Borough important species during key phases of its life cycle.
Parish	• A feature considered scarce within a Parish or which appreciably enriches the Parish resource.
Local	• Areas identified in a Local BAP or the relevant natural area profile. • Sites/features which area scarce in the locality or which are considered to appreciably enrich the habitat resource within the local context, e.g. species-rich hedgerows. • Local Nature Reserves selected on Parish/Local ecological criteria. • Significant numbers/population of a locally important species e.g. one which is listed on the Local BAP. • Any species, populations or habitats of local importance.
Low	• Habitats of moderate to low diversity which support a range of locally and nationally common species, the loss of which can be easily mitigated.

APPENDIX D – TABLE OF CONTEMPORARY BTO DATA

SPECIES*	BREEDING?	DISTANCE FROM SITE WITHIN 2 KM	REASON FOR PRIORITISATION
Barn Owl	N	Present	Schedule 1 Species
Black-Headed Gull	Y	Present	
Bullfinch	Y	Present	NERC Species
Common Gull	Y	Present	
Cuckoo	Y	Present	NERC Species
Dunnock	Y	Present	NERC Species
Fieldfare	Y	Present	Schedule 1 Species
Gadwall	Y	Confirmed	
Greenfinch	Y	Present	
Grey Wagtail	N	Present	
Greylag Goose	Y	Confirmed	
Herring Gull	Y	Present	NERC Species
Hobby	Y	Present	Schedule 1 Species
House Martin	Y	Present	
House Sparrow	Y	Present	NERC Species
Kestrel	Y	Present	
Lapwing	Y	Present	NERC Species
Lesser Black-backed Gull	Y	Present	
Lesser Redpoll	N	Present	NERC Species
Linnet	Y	Present	NERC Species
Little Egret	N	Present	Annex 1 Species
Mallard	Y	Present	
Meadow Pipit	Y	Present	

SPECIES*	BREEDING?	DISTANCE FROM SITE WITHIN 2 KM	REASON FOR PRIORITISATION
Mistle Thrush	Y	Present	
Moorhen	Y	Confirmed	
Oystercatcher	N	Present	
Red Kite	Y	Present	Annex 1 Species, Schedule 1 Species
Redwing	Y	Present	Schedule 1 Species
Reed Bunting	Y	Present	NERC Species
Rook	Y	Confirmed	
Skylark	Y	Present	NERC Species
Song Thrush	Y	Present	NERC Species
Sparrowhawk	Y	Present	
Starling	Y	Present	NERC Species
Stock Dove	Y	Present	
Swift	Y	Present	
Tawny Owl	Y	Present	
Wheatear	Y	Present	
Whinchat	Y	Present	
Whitethroat	Y	Present	
Wigeon	Y	Present	
Willow Warbler	Y	Present	
Yellow Wagtail	Y	Present	NERC Species
Yellowhammer	Y	Present	NERC Species

BIODIVERSE
CONSULTING

Dissington Hall
Dalton
Newcastle upon Tyne
NE18 0AD

www.biodiverseconsulting.co.uk