



OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement

Appendix 6.9 – Breeding Bird Survey Report

January 2024

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Oaklands Farm Solar Park - Environmental Statement Volume 3

Appendix 6.9: Breeding Bird Survey Report

Final report

Prepared by LUC

January 2024

Oaklands Farm Solar Limited

Oaklands Farm Solar Park Technical Appendix 6.9: Breeding Bird Survey Report

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Chapter 1

Introduction

Terms of Reference

1.1 In April 2021, LUC was appointed by Oaklands Solar Farm Limited to provide ecological support to inform an application to construct and operate Oaklands Farm Solar Park, a proposed solar photovoltaic (PV) electricity generating facility, hereafter referred to as 'the Proposed Development'.

1.2 The Phase 1 Habitat Survey, which is reported separately (**Appendix 6.5: Phase 1 Habitat Survey Report** in Volume 3 of the ES) identified suitable habitat within the Site for breeding birds.

1.3 This report presents the baseline survey findings, in respect of breeding birds, and has been prepared to inform proposals, including avoidance of impacts, mitigation requirements, and provision of appropriate enhancements.

1.4 The report forms an Appendix, which has informed an Ecological Impact Assessment (EclA) and will form part of the Environmental Statement (ES), in support of a planning application for the Proposed Development. Assessment of impacts, mitigation requirements and enhancement measures will be provided as part of the ES Chapter and are not detailed within this report.

1.5 This report has been prepared for the exclusive use of Oaklands Solar Farm Limited. No part of this report should be considered as legal advice.

This report relates to the Park Farm and Oaklands Farm only, hereafter referred to as 'the Site' as shown on Figure 1.1: Site Location in ES Volume 2.

Proposed Site and Development Description

1.6 The Proposed Development would have a generating capacity of over 50MW and would be situated on 191 hectares of land at Oaklands Farm to the south-east of Walton-on-Trent and to

the west of Rosliston in south Derbyshire. The solar farm itself, comprising photovoltaic panel arrays, a central electricity substation and Battery Energy Storage System together with access, landscaping and other works would be located on 135 hectares of agricultural land currently in use for arable production and grazing. A high voltage underground electricity cable would then run through land at Fairfield Farm and Park Farm to the north to connect the solar farm to the national grid via an electricity substation located at the former Drakelow Power Station which sits south of Burton-upon-Trent.

1.7 The wider area is comprised of a mosaic of agricultural and pastoral land and woodland with Rosliston Forestry Centre located to the east and the River Trent located to the west of the Site.

Previous Surveys at Oaklands Farm

1.8 Breeding bird surveys for Oaklands Farm were undertaken in 2020 and reported separately¹ to inform this planning application. In line with advice given by CIEEM on the lifespan of ecological reports and surveys, an updated survey was undertaken on 12th April 2023 and 3rd May 2023, which confirmed that the survey findings are still considered valid in cognisance with advice provided by CIEEM. Details of this updated survey is summarised in this report. The full methodology and results of the original assessment are available within the previous report.

Policy and Legal Considerations

1.9 This baseline report has been prepared in cognisance with relevant legislation and policy. Further detail is provided in **Appendix A**; however, the following primary documents are of relevance:

- The Wildlife and Countryside Act of 1981².
- The Countryside and Rights of Way Act (CRoW Act), 2000³.

¹ Arcus, (2020). *2020 Breeding Bird Survey Report: Oaklands Solar Farm prepared on behalf of BayWa r.e. UK Limited*

² The Wildlife and Countryside Act 1981. Available at: <https://www.legislation.gov.uk/ukpga/1981/69>. [Accessed 29/09/23]

³ The Countryside and Rights of Way Act (CRoW Act), 2000. Available at: <https://www.legislation.gov.uk/ukpga/2000/37/contents> [Accessed 29/09/23]

- The Natural Environment and Rural Communities Act 2006 (NERC Act)⁴.
- The Conservation of Habitats and Species Regulations 2017⁵.
- The National Planning Policy Framework (2023)⁶.
- South Derbyshire District Local Plan Part 1 (Adopted June 2016)⁷.
- Department for Energy and Climate Change. 2011. Overarching National Policy Statement for Energy (EN-1)⁸ and Draft NPS EN-1 for designation dated 2023⁹.
- Department for Energy and Climate Change. 2011. National Policy Statement for Renewable Energy Infrastructure (EN-3)¹⁰ and Draft NPS EN-3 for designation dated 2023¹¹.
- Department for Energy and Climate Change. 2011. National Policy Statement for Electricity Networks Infrastructure (EN-5)¹² and Draft NPS EN-5 for designation dated 2023¹³.

⁴ The Natural Environment and Rural Communities Act 2006. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> [Accessed 29/09/23]

⁵ The Conservation of Habitats and Species Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made> [Accessed 29/09/23]

⁶ Department for Levelling Up, Housing and Communities (2023) The National Planning Policy Framework. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework—2> [Accessed 29/09/23]

⁷ South Derbyshire District Council (2016) Local Plan Part 1 (Adopted June 2016). Available at: <https://www.southderbyshire.gov.uk/our-services/planning-and-building-control/planning/planning-policy/local-plan/adopted-local-plan> [Accessed 29/09/23]

⁸ Department for Energy and Climate Change (2011) Overarching National Policy Statement for Energy. Available at: <https://assets.publishing.service.gov.uk/media/5a79522de5274a2acd18bd53/1938-overarching-nps-for-energy-en1.pdf> [Accessed 29/09/23]

⁹ Department for Energy Security and Net Zero (2023) Draft Overarching National Policy Statement for Energy (EN-1). Available at: <https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf> [Accessed 16/01/24]

¹⁰ Department for Energy and Climate Change (2011) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: <https://assets.publishing.service.gov.uk/media/5a79c422e5274a684690bf53/1940-nps-renewable-energy-en3.pdf> [Accessed 29/09/23]

¹¹ Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf> [Accessed 16/01/24]

¹² Department for Energy and Climate Change (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/5a74877840f0b61938c7e2d9/1942-national-policy-statement-electricity-networks.pdf> [Accessed 29/09/23]

¹³ Department for Energy Security and Net Zero (2023) Draft National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf> [Accessed 16/01/24]

Chapter 2

Methods

Desk Study

2.1 A review of biological records within 2km of the Site was undertaken as part of the Extended Phase 1 Habitat Survey, which included a review of relevant bird records. This is reported separately in **Appendix 6.5: Phase 1 Habitat Survey Report** in Volume 3 of the ES. A summary of relevant bird records is provided in Chapter 3 of this report.

Field Survey

Habitat Appraisal

2.2 During the Extended Phase 1 Habitat Survey on 21st April 2021, the Park Farm area of the Site was assessed for the suitability of habitats to support breeding birds. This included consideration of all bird activity, including foraging, dispersing, sheltering, and breeding.

Breeding Bird Survey

2.3 An adaptation of the Common Birds Census (CBC) method¹⁴ was considered appropriate for this site as follows:

- Three survey visits were undertaken between April and June 2021 at Park Farm and April and May 2023 at Oaklands Farm. This enabled the survey to record all species (including those secretive species that may not be recorded on one visit only), and those that breed both earlier and later in the season (such as some migrant species).
- On each survey visit the entire survey area was slowly walked and the location and behaviour of each bird species marked on a map. The intention was not to map bird territories but rather to establish the number, diversity, and approximate distribution of species within the Site.

¹⁴ Gilbert, G., Gibbons, D.W., Evans, J. (1998) *Bird Monitoring Methods: A manual of techniques for key UK species*. Bedfordshire: Royal Society for the Protection of Birds (RSPB).

- British Trust for Ornithology (BTO) standard species codes¹⁵ were used along with qualifying symbols relating to the activity observed. For example, WR encircled denotes a singing wren.
- Surveys commenced shortly after dawn and continued to late morning in order to cover the period of greatest territorial activity for most bird species.

2.4 All surveys were undertaken by experienced bird surveyors David Green BSc (Hons) MCIEEM, Rosalind Warwick-Haller BSc (hons) MSC Qualifying Member of CIEEM and Pedro Freitas BSc MSc Qualifying Member of CIEEM in weather conditions suitable for recording bird activity. The dates and environmental conditions during each survey are provided in **Table B.1, Appendix B.**

Assessment of Bird Communities

2.5 The assessment of bird communities present within the Site follows best practice guidance¹⁶. This method is used to determine Breeding Diversity Thresholds and the terminology is similar to those used for Ecological Impact Assessment. The assessment considers the following factors.

Population Size

2.6 Conservation value is expressed at five geographic scales of importance: international, national, regional, county, and local. Clearly, these assessments can only be made where reasonable population estimates already exist at each level.

2.7 A site supporting a single territory of a species numbering less than 100 pairs nationally is classified as regionally important. However, single territories of species which are not nationally rare, although they may be above the 1% level of the recorded county or regional population would be regarded as of local or county importance.

¹⁵ http://www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf

¹⁶ Fuller, R.J. (1980) *A method for assessing the ornithological interest of sites for conservation* Biol. Cons. 17:229-239.

Diversity

2.8 The best practice guidance¹⁶ presents breeding diversity criteria, the number of breeding species, to assess the importance of a site to birds in the breeding season, as shown in **Table 2.1** below.

Table 2.1: Breeding Diversity Importance Thresholds

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

2.9 The quality of the breeding community considers the number of scarce species, considered to be those with a national population of less than 100,000 pairs. These are divided into five categories and species falling within each abundance category are scored from 1 to 5 as shown in **Table 2.2** below:

Table 2.2: Breeding Population Scores

Category	National Number of Breeding Pairs	Score
A	1 – 10	5
B	11 – 100	4
C	101 – 1000	3
D	1001 – 10,000	2
E	10,001 – 100,000	1

2.10 The presence of one species in Category B (1 x 4), two in C (2 x 3), three in D (3 x 2) and 10 in E (10 x 1) would give an index or score of 26.

2.11 This is referred to as the Index of Diversity. It is considered that the following ranges of indices are appropriate to the various levels of conservation importance, as shown in **Table 2.3** below.

Table 2.3: Index of Diversity Thresholds

National	Regional	County	Local
60+	59-40	39-20	19-10

Rarity

2.12 The best practice guidance¹⁶ considers any species numbering 1000 or fewer breeding pairs to be nationally rare. In this assessment this category includes species protected under Schedule 1 of the Wildlife and Countryside Act, species considered by the Rare Breeding Birds Panel (RBBP)¹⁷ and species included in the Red List of Birds of Conservation Concern (BOCC)¹⁸. Red List bird species are those whose UK breeding population, or breeding range, has contracted by 50% or more in the preceding 25 years.

2.13 The best practice guidance¹⁶ criteria are drawn from data supplied for the compilation of the BTO's Register of Ornithological Sites which was mostly gathered between 1973 and 1977. Since that time significant decreases have occurred in many bird populations, and it is possible that the qualifying diversity levels will also have reduced. It is thought that no similar diversity analysis has been conducted since that time. However, population estimates are frequently revised and, in this report, Baker *et al* (2006)¹⁹ has been used.

Limitations

Grid Cable Route

2.14 Due to access restrictions at the time of survey, a breeding bird survey in 2021 of the Grid Cable Route at Fairfield Farm was not undertaken. This is not considered an overarching constraint given that the habitats within the grid cable alignment (largely arable and improved pasture) were comparable to those located within the Site at Park Farma and Oaklands Farm and were likely to support comparable species.

¹⁷ <https://rbbp.org.uk/>

¹⁸ <https://britishbirds.co.uk/content/status-our-bird-populations>

¹⁹ Baker, H., Stroud, D.A., Aebischer, N.J., Cranswick, P.A., Gregory, R.D., McSorley, C.A., Noble, D.G. & Rehfisch, M.M. (2006) Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 99: 25–44

General Limitations

2.15 It is important to note that ecological surveys provide information regarding the ecological baseline of a Site for only a ‘snapshot’ of time. Therefore, if significant time lapses between the surveys and the further development or implementation of proposals, updated ecological surveys may be required to identify any change in the baseline, such as natural succession of habitats, or local extinction or colonisation of species. Therefore, if a year lapses between the progressions of development proposals, it is recommended that ecological advice is sought regarding the applicability of the survey findings, in cognisance with advice given by CIEEM on the lifespan of ecological reports and surveys²⁰.

²⁰ CIEEM (2019). Advice Note: On the Lifespan of Ecological Reports and Surveys. Winchester: Chartered Institute for Ecology and Environmental Management.

Chapter 3 Results

Desk Study

3.1 A summary of relevant bird records identified as part of the desk study is presented in **Table 3.1** below.

Table 3.1: Summary of Biological Records

Species	Nearest Record and Date
Schedule 1 Birds	
Barn owl <i>Tyto alba</i>	Confidential - 2020
Cetti's warbler <i>Cettia cetti</i>	Confidential - 2020
Peregrine <i>Falco peregrinus</i>	Confidential - 2020
Redwing <i>Turdus iliacus</i>	Confidential - 2020
Fieldfare <i>Turdus pilaris</i>	Confidential - 2019
Green sandpiper <i>Tringa ochropus</i>	Confidential - 2019
Kingfisher <i>Alcedo atthis</i>	Confidential - 2019
Merlin <i>Falco columbarius</i>	Confidential - 2019
Whooper swan <i>Cygnus cygnus</i>	Confidential - 2019
Hobby <i>Falco subbuteo</i>	Confidential - 2019
Red kite <i>Milvus milvus</i>	Confidential - 2019
Honey buzzard <i>Pernis apivorus</i>	Confidential - 2008
UK BAP Species	

Species	Nearest Record and Date
House sparrow <i>Passer domesticus</i>	c. 0.8km south in 2015
Yellowhammer <i>Emberiza citrinella</i>	c. 1.2km south in 2000
Dunnock <i>Prunella modularis</i>	c. 1.9km northwest in 2020
Song thrush <i>Turdus philomelos</i>	c. 1.9km northwest in 2020
Lapwing <i>Vanellus vanellus</i>	c. 1.9km northwest in 2020
Cuckoo <i>Cuculus canorus</i>	c. 1.9km northwest in 2019
Grasshopper warbler <i>Locustella naevia</i>	c. 1.9km northwest in 2019
Wood warbler <i>Phylloscopus sibilatrix</i>	c. 1.9km northwest in 2019
Willow tit <i>Poecile montanus</i>	c. 1.9km northwest in 2019
Skylark <i>Alauda arvensis</i>	c. 1.9km northwest in 2013
Reed Bunting <i>Emberiza schoeniclus</i>	c. 1.9km northwest in 2013
Curlew <i>Numenius arquata</i>	c. 1.9km northwest in 2013
Bullfinch <i>Pyrrhula pyrrhula</i>	c. 1.9km northwest in 2013
Starling <i>Sturnus vulgaris</i>	c. 1.9km northwest in 2013
Linnet <i>Carduelis cannabina</i>	c. 1.9km northwest in 2012
Lesser spotted woodpecker <i>Dendrocopos minor</i>	c. 1.9km northwest in 2012
Spotted flycatcher <i>Muscicapa striata</i>	c. 1.9km northwest in 2012
Grey partridge <i>Perdix perdix</i>	c. 1.9km northwest in 2011
Corn bunting <i>Miliaria calandra</i>	c. 1.9km northwest in 2010
Marsh tit <i>Parus palustris</i>	c. 1.9km northwest in 2009

Species	Nearest Record and Date
Swallow <i>Hirundo rustica</i>	c. 2km northwest in 2019
Swift <i>Apus apus</i>	c. 2km northwest in 2016

Previous Breeding Bird Survey at Oaklands Farm

3.2 The previous surveys at Oaklands Farm¹ recorded 56 bird species, including 22 species of conservation concern. 11 species of conservation concern showed evidence of breeding within the BBS Area, including six species within Oaklands Farm. The survey concluded that Oaklands Farm supported a selection of species typical of the habitats and geographic location. The full BBS report is presented in **Appendix 6.4: Breeding Bird Survey Report: Oaklands Solar Farm** in Volume 3 of the ES. Details of the 2023 surveys conducted by LUC are presented in the 'Field Survey' section below.

Field Survey

Habitat Appraisal

3.3 The vast majority of Park Farm and Oaklands Farm was of low value to birds, comprising intensively grazed and managed improved grasslands. Grazing by cattle and sheep had resulted in severe degradation of internal hedgerows, which were characterised by a defunct and straggling growth form and being notably species-poor. As a result, the suitability of internal hedgerows for supporting nesting and feeding by typical farmland bird species was likely to have been severely reduced. The extent and frequency of cattle grazing in particular was also likely to have significantly reduced the suitability of grasslands for supporting ground nesting species frequent in the wider landscape, including skylark and meadow pipit.

3.4 At Park Farm and Oaklands Farm, habitats of increased value to breeding birds included mature and veteran trees, woodlands, three brooks/ponds at Oaklands Farm, a small watercourse along the eastern edge of Park Farm, western edge of Fairfield Farm and in the north of Oaklands Farm, a vegetated field pond in the west of the Site, and tree lines and hedgerows at the edges of the Site where protection of grazing has enabled a favourable structure to establish.

3.5 The wider area supported a network of agricultural land uses interspersed by woodlands, tree lines and hedgerows and in general represented a landscape of significantly greater value for breeding birds than those present within the Park Farm and Oaklands Farm Site itself due to the increased quality of hedgerows in particular.

Breeding Bird Survey

Park Farm – 2021 Survey Results

3.6 A list of species recorded within Park Farm Site, and their conservation status is provided in **Table 3.2** below

Table 3.2: Bird territories recorded.

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park Farm Buildings	
On Park Farm Site								
Barn owl	Sch 1	-	-	-	1*			1
Little owl	n/a (introduced)						1	1
House sparrow	BoCC (red)						50+	Colony
Yellowhammer	BoCC (red)	1						1
Dunnock	BoCC (amber)	3		3				6
Song thrush	BoCC (red)	1		3				4
Mistle thrush	BoCC (red)	1		1				2
Reed Bunting	BoCC (amber)					1		1

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park Farm Buildings	
Bullfinch	BoCC (amber)			1		1		2
Linnet	BoCC (red)					2		2
Great spotted woodpecker	n/a			2		1		3
Spotted flycatcher	BoCC (red)					1		1
Swallow	n/a						20+	Colony
House martin	BoCC (red)						20+	Colony
Greenfinch	BoCC (red)	1						1
Chaffinch	n/a			4		2		6
Goldfinch	n/a			3				3
Goldcrest	n/a			1				1

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park Farm Buildings	
Blackbird	n/a	3		1		1	1	
Robin	n/a	3		3				6
Collared dove	n/a						1	1
Blue tit	n/a	2		4			1	7
Great tit	n/a			2		1		3
Long tailed tit	n/a			1 (family)				1
Coal tit	n/a						1	1
Tree creeper	n/a			1				1
Nuthatch	n/a			1				1
Stock dove	BoCC (amber)			2				2

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park Farm Buildings	
Green woodpecker	n/a			1				1
Mallard	BoCC (amber)					2		2
Little grebe	n/a					1		1
Coot	n/a					1		1
Moorhen	n/a					1		1
Kestrel	BoCC (amber)						1	1
Chiffchaff	n/a			3		1		4
Whitethroat	n/a					1		1
Blackcap	n/a			2		1		3
Wren	n/a	2		5		2	1	10

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park Farm Buildings	
Pied wagtail	n/a						2	2
Offsite								
Corn bunting	BoCC (red)	Singing bird to NE of site.						
Cuckoo	BoCC (red)	Male calling in woodland to north.						
Skylark	BoCC (red)	Several birds holding territory to NE.						
Lapwing	BoCC (red)	Pair recorded displaying in northern part of field in east of the site which is partially within site boundary.						
Yellowhammer	BoCC (red)	Calling to NE of site						

* location of tree confidential

3.7 Species regularly recorded within the Park Farm Site which were highly mobile, forming aggregates and possibly breeding within or in the vicinity of Park Farm Site, included::

- Swift (numerous records feeding over the site).
- Starling (BoCC red) (aggregations regularly recorded foraging within improved grasslands);
- Black headed gull (BoCC red) (several birds 100+ recorded foraging within arable fields);
- Herring gull (several birds loafing in arable);
- Rook (numerous birds recorded feeding within arable to east);
- Woodpigeon (BoCC amber) (numerous throughout);
- Carrion crow (numerous throughout);
- Magpie (numerous foraging throughout);
- Pheasant (numerous throughout (reared));
- Red legged partridge (heard throughout – likely reared birds);
- Jackdaw (numerous foraging throughout);
- Red kite (Sch 1, BoCC red) (recorded high overhead); and
- Buzzard (recorded high overhead).

3.8 In 2021 a total of 39 species were recorded within the Park Farm Site and were confirmed as breeding or probably breeding. A further 13 species were recorded foraging or loafing across the site and are likely to breed within or close to the site. In 2023 a total of 43 species were recorded within the Oaklands Farm Site and were confirmed as breeding or probably breeding. A further 5 species were recorded foraging or loafing across the site and are likely to breed within or close to the site.

3.9 A further four species, all comprising notable red listed birds of conservation concern, were recorded adjacent to the Park Farm Site within the survey area. A further five species, two of them comprising notable red listed birds of conservation concern, were recorded adjacent to the Oaklands Farm Site within the survey area.

3.10 A barn owl was recorded leaving a tree²¹ on 29/07/2021 during a bat survey within the Park Farm Site. No specific survey was undertaken for this species, but it has been considered a probable breeding species on account of its presence and suitable nesting sites both within mature trees and within the Park Farm buildings.

Oaklands Farm – 2023 Survey Results

3.11 A list of species recorded within the Oaklands Farm Site, and their conservation status is provided in **Table 3.3** below.

²¹ Location of tree confidential

Table 3.3: Bird territories recorded.

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
On Oaklands Farm Site								
Little owl	n/a (introduced)	2						2
Buzzard	n/a	1			2			3
Sparrowhawk	BoCC (amber)	1						1
House sparrow	BoCC (red)	2			50+			Colony on arable and 2 territories on hedgerow.
Yellowhammer	BoCC (red)	14			2			16

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Dunnock	BoCC (amber)	8		3	1	1		13
Skylark	BoCC (red)				6			6
Song thrush	BoCC (red)	4		3		1		8
Fieldfare	Sch 1, BoCC (red)				40			Colony
Bullfinch	BoCC (amber)			1		1		2
Linnet	BoCC (red)					5		2 separate colonies comprising 2 and 5 individuals, respectively.

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Great spotted woodpecker	n/a	1						1
Starling	BoCC (red)	1						1
Stonechat	n/a	1						1
Swallow	n/a	2			1			3
Greenfinch	BoCC (red)	5				2		7
Chaffinch	n/a	10		4		3		17
Goldfinch	n/a	20		3		2		25
Goldcrest	n/a	8		1		1		10
Blackbird	n/a	19		1	1	5		26
Robin	n/a	19		3				22

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Collared dove	n/a					1		1
Woodpigeon	BoCC (amber)	28			16			44
Blue tit	n/a	12		4		1		17
Great tit	n/a	17		2		4		23
Long tailed tit	n/a	1 (family)		1 (family)				2
Coal tit	n/a	7				1		8
Stock dove	BoCC (amber)	4		2	1			7
Green woodpecker	n/a			1				1

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Mallard	BoCC (amber)					3		3
Cormorant	n/a				1			1
Kestrel	BoCC (amber)				2			2
Chiffchaff	n/a	11		3		1		15
Whitethroat	n/a	6				1		7
Blackcap	n/a			2		1		3
Wren	n/a	34		5		2		41
Pied wagtail	n/a					1		1

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Grey wagtail	BoCC (amber)	1			1			2
Raven	n/a	4						4
Jackdaw	n/a	19		1	2	1		23
Carrion Crow	n/a	33		1				34
Magpie	n/a	7						7
Jay	n/a	1						1
Pheasant	n/a (introduced)	6			3			9
Canada Goose	n/a (introduced)				2			2

Species	Conservation Status	Activity Location / no. of territories						Estimated minimum total no. territories
		Hedgerow/ tree line	Improved grassland	Woodland/ scrub	Arable	Brook/ pond	Park farm buildings	
Offsite								
Skylark	BoCC (red)	Several birds holding territory to south and west of site.						
Rook	BoCC (amber)	Two individuals calling while flying over a scrub area 15.4m from site boundary to west-southwest.						
House sparrow	BoCC (red)	Three individuals seen perched 6.5m from site boundary to west-southwest making use of scrub area.						
Swallow	n/a	Four individuals showing territorial aggression over scrub area 17m west-southwest of site.						
Collared dove	n/a	Three individuals calling from trees and buildings to west-southwest of Oaklands Farm Site.						

3.12 Following the surveys in 2023, 48 bird species were recorded, including 17 species of conservation concern. 16 species of conservation concern showed evidence of breeding within the BBS Area, all within Oaklands Farm. The survey concluded that Oaklands Farm supported a selection of species typical of the habitats and geographic location. Similar breeding bird assemblage as the surveys conducted in 2020 as detailed in **Appendix 6.4: Breeding Bird Survey Report: Oaklands Solar Farm** in Volume 3 of the ES.

Chapter 4

Discussion

4.1 Relevant legislation relating to birds is summarised in **Appendix A**.

4.2 The majority of Park Farm was of low value to birds due to high levels of grazing which has resulted in disturbance and degradation of habitats such as hedgerows, and establishment of a homogenous grassland sward lacking in species or structural diversity.

4.3 Habitats of increased value for birds within the Site included Park Farm itself which supported colonies of house sparrow, house martin and swallow and woodlands / scrub habitat which supported the greatest number of and diversity of breeding birds.

Assessment of Bird Communities at Park Farm and Oaklands Farm

Population Size

4.4 No species were present in numbers approaching the 1% national breeding population level.

Diversity

Species Richness

4.5 At the Park Farm in 2021 of the 52 bird species recorded using the Site, at least 39 were considered likely to nest within the Site. A further 13 species include the Site within a breeding territory and may nest within the Site, although no evidence of such was recorded. At the Oaklands Farm in 2023 of the 48 bird species recorded using the Site, at least 43 species were considered likely to nest within the Site. A further 5 species include the Site within a breeding territory and may nest within the Site, although no evidence of such was recorded.

4.6 Regarding Park Farm and in accordance with the Breeding Diversity Importance Thresholds defined in **Table 2.1**, a total of 52 breeding species (considered a precautionary estimate for the Site) accords with a **County Level of Importance**. With respect to Oaklands Farm and in accordance with the Breeding Diversity Importance Thresholds defined in **Table 2.1**, a total of 48 breeding species (considered a precautionary estimate for the Site) accords with a **Local level of Importance**.

Breeding Community Quality

4.7 At Park Farm in 2021 the presence of four species in Category E (green woodpecker, kestrel, swift, and buzzard), and four in Category D (barn owl, little owl, red kite and little grebe), gives an Index of Diversity score of 12 for the site. This falls within the threshold of **Local Importance** as shown in **Table 2.3**.

4.8 At the Oaklands Farm in 2023 the presence of six species in Category E (raven, sparrowhawk, green woodpecker, kestrel, stonechat, and buzzard), one in Category D (little owl), and one in Category B (grey wagtail) gives an Index of Diversity score of 12 for the site. This falls within the threshold of **Local Importance** as shown in **Table 2.3**.

Rarity and Conservation Concern

4.9 At the Park Farm no nationally rare birds were recorded, whereas one rare bird (grey wagtail) was recorded as potentially breeding at Oaklands Farm. Nationally rare birds are those considered to number 1000 or fewer breeding pairs nationally. In this assessment this category also includes species protected under Schedule 1 of the Wildlife and Countryside Act, species considered by the Rare Breeding Birds Panel¹⁷ and species included in the Red List of Birds of Conservation Concern¹⁸. At Park Farm in 2021 two Schedule 1 species were recorded: barn owl and red kite. These species were not confirmed as nesting but may do so within or close to the site given the presence of suitable nest sites. A total of nine red listed Birds of Conservation Concern were recorded within the Park Farm Site. A further four red listed species were recorded offsite but within the survey recording range. A total of seven red listed Birds of Conservation Concern were recorded within the Oaklands Farm Site. A further four red listed species were recorded offsite but within the survey recording range. Red listed species are those whose breeding range or population has declined by 50% or more in the preceding 25 years.

Breeding Bird Surveys at Oaklands Farm

4.10 In 2020 the BBS survey at Oaklands Farm, whose results can be found in a previous report²², recorded 56 bird species, including 22 species of conservation concern. Eleven species of conservation concern showed evidence of breeding within the BBS Area, including six species within Oaklands Farm. In 2023 the BBS survey at Oaklands Farm recorded 48 bird

²² Appendix 6.4: Breeding Bird Survey Report: Oaklands Solar Farm (Arcus, 2020).

species, including 17 species of conservation concern. 16 species of conservation concern showed evidence of breeding within the BBS Area, all species within Oaklands Farm.

Impacts of the Proposals

4.11 The Site is mainly comprised of open arable and improved pastoral land which favours a small number of species typical of such land use, however, it is worth noticing that most bird diversity is associated with hedgerows and tree lines, woodlands and scrub, and brooks and ponds present within or adjacent to Site. A considerable number of these habitats were found in poor condition as a result of unfavourable management and/or degradation caused by farmland activities such as crop and animal production. Given that proposals will result in a significant Biodiversity Net Gain (BNG), a positive impact on the breeding bird assemblage is expected at the Site.

4.12 The proposals will lead to:

- Permanent loss of breeding opportunities due to the loss of small quantities of hedgerows, scrub, and trees, nevertheless, they will also result in significant increases in the extent and quality of hedgerows and include extensive scrub and woodland planting, which ultimately will be beneficial to the breeding bird assemblage within the Site.
- Permanent reduction in the suitability of large areas of the Site for species which favour open aspects such as skylark and yellowhammer, due to the solar arrays, however, they will also be responsible for the creation of significant BNG which will favour the majority of species recorded within the Site and increase the overall abundance and diversity of the wider bird assemblage.
- Temporary loss of foraging opportunities during construction due to loss of large areas of improved pasture and arable land which overall are very poor habitats for foraging birds during the bird season
- Temporary noise and vibration disturbances to breeding birds during construction, which will be taken into account by undertaking nesting bird checks and creating adequate buffer zones if birds are found nesting.

Avoidance and Mitigation

4.13 The scheme has been sensitively designed to focus impacts in areas of lower ecological value including improved grassland and arable fields. The vast majority of habitats of higher value to birds, including hedgerows, woodland, trees, river corridor and open water will be retained and enhanced.

4.14 To mitigate the loss of breeding and foraging opportunities, hedgerows, lowland meadow, species-rich grassland, and woodland understorey will be created to provide high quality nesting and foraging habitat for various bird species. Species specific nesting boxes will also be installed on retained trees as detailed below.

4.15 To mitigate any loss of large open areas favoured by species such as skylark and yellowhammer, more open areas of lowland meadow will be created and managed sympathetically for these species.

4.16 Where the proposals will result in the loss of habitat suitable to support nesting birds, the following mitigation measures would be required:

- Clearance of suitable nesting habitat between September-February (inclusive) to avoid the nesting season.
- If vegetation clearance cannot be undertaken outside the nesting bird season, an inspection of vegetation for the presence of birds' nests would be undertaken by a suitably qualified ecologist no more than 24 hours prior to felling.
- If birds' nests are found to be present, works must cease within a suitable buffer zone until the young have fully fledged, and the nest is no longer active (to be confirmed by an ecologist). This would likely result in delays to the programme.

Enhancement

4.17 The creation of species-rich grasslands, tree lines, hedgerows, and enhancement of retained and protected habitats (e.g., woodland) through beneficial long-term management would be expected to greatly benefit breeding birds and increase opportunities for foraging and nesting for a range of species.

4.18 Species specific nesting boxes will be installed across the Site including:

- Vivara Pro Barcelona WoodStone Open Nest Box. This box type provides nesting opportunities for species such as wren, *Troglodytes troglodytes*, robin *Erithacus rubecula*, spotted flycatcher *Muscicapa striata*, pied wagtail *Motacilla alba*, grey wagtail *Motacilla cinerea*, song thrush *Turdus philomelos* and blackbird *Turdus merula* and may be used by dunnock.
- 2M Schwegler Nest Box 32mm hole. This box type provides nesting opportunities for species such as great tit *Parus major*, blue tit *Cyanistes caeruleus*, marsh tit *Poecile palustris*, coal tit *Periparus ater*, crested tit *Lophophanes cristatus*, redstart *Phoenicurus phoenicurus*, nuthatch *Sitta europaea*, collared flycatcher *Ficedula albicollis*, pied flycatcher *Ficedula hypoleuca*, wryneck *Jynx torquilla*, tree sparrow *Passer montanus* and house sparrow *Passer domesticus*.
- 2TF Schwegler Nest Box. This box is composed of Woodcrete material and provides nesting opportunities for kestrel.
- Wildcare outdoor barn owl box. This box is for installation on trees and provides nesting opportunities for barn owl *Tyto alba*, with a deep nest chamber and a wide platform with a lip.
- 22 Schwegler Little Owl Box. This box type provides nesting opportunities for little owl *Athene noctua* and is ideal for trees lacking suitable horizontal branches for box placement such as small or young trees.
- 3S Schwegler Starling Nest Box. This box type is designed for starling but can also provide overnight shelter for species such as greater spotted woodpecker *Dendrocopos major*, middle spotted woodpecker *Dendrocopos medius* and lesser spotted woodpecker *Dryobates minor* as well as nesting opportunities for pied flycatcher and nuthatch.

Appendix A

Policy and Legislation

A.1 Statutory nature conservation sites and protected species are a ‘material consideration’ in the UK planning process (DCLG 2019). Where planning permission is not required, for example on proposals for external repair to structures, consideration of protected species remains necessary given their protection under UK and EU law.

A.2 Natural England Standing Advice aims to support Local Planning Authorities decision making in respect of protected species (Natural England 2017). Standing advice is a material consideration in determining the outcome of applications, in the same way as any individual response received from Natural England following consultation.

A.3 The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) transpose the requirements of the European Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (Council Directive 2009/147/EC) into UK law, enabling the designation of protected sites and species at a European level.

A.4 The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species.

A.5 The Countryside Rights of Way Act 2000 provides additional support to the Wildlife and Countryside Act 1981; for example, increasing the level of protection for great crested newt.

A.6 The Wild Mammals (Protection) Act 1996 sets out the welfare framework in respect to wild mammals, prohibiting a range of activities that may cause unnecessary suffering.

A.7 The Natural Environment and Rural Communities Act (NERC Act) 2006 created Natural England and the Commission for Rural Communities and extended the biodiversity duty set out in the Countryside and Rights of Way Act (CROW Act) to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity.

A.8 The Protections of Badgers Act 1992 sets out the legislation relating to badgers.

A.9 The Hedgerows Regulations 1997 makes provision for the protection of important hedgerows in England and Wales.

A.10 Species and Habitats of Principal Importance for Conservation in England and Wales and priority habitats and species listed on the Lowland Derbyshire Biodiversity Action Plans (LBAP) are species which are targeted for conservation. The government has a duty to ensure that involved parties take reasonable practice steps to further the conservation of such species under Section 41 of the Natural Environment and Rural Communities Bill 2006. In addition, the Act places a biodiversity duty on public authorities who ‘must, in exercising their functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity’ (Section 40 [1]). Criteria for selection of national priority habitats and species in the UK include international threat and marked national decline.

A.11 The National Planning Policy Framework (2023) states (Section 15) that the planning system should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks; promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

A.12 It also states that local planning authorities should refuse planning on the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.
- If development is on land within or outside a site of Special Scientific Interest (SSSI) and is likely to have an adverse effect on it (the exception being where the benefits of the development in the location proposed clearly outweigh its likely impact).
- If development results in the loss or deterioration of irreplaceable habitats, such as ancient woodland and ancient or veteran trees (unless there are wholly exceptional reasons and a suitable compensation strategy exists).

A.13 Additionally, the NPPF states that development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity

Nesting Birds

A.14 Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and destruction. Certain species listed on Schedule 1 of the Act, are afforded additional protection against protection.

Appendix B

Environment Conditions During Breeding Bird Surveys

Table B.1: Environmental Conditions during Surveys

Survey	Date	Sunrise	Start	End	Weather Conditions	Visibility
1	21 st April 2021	05:57	07:00	11:15	Mild, overcast, sunny spells, still.	Good
2	14 th May 2021	05:16	07:45	11:15	Mild, sunny, still.	Good
3	21 st June 2021	04:50	07:30	11:00	Warm, sunny, little wind.	Good
4	12 th April 2023	06:16	07.20	10:30	Mild, scattered showers, passing clouds.	Good
5	3 rd May 2023	05:31	07:04	10:47	Warm, passing clouds, dry.	Good