

# BEANE SOLAR FARM

## Farmland Bird Mitigation Strategy

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Beane Solar: Farmland Bird  
Mitigation Strategy  
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## BEANE SOLAR: FARMLAND BIRD MITIGATION STRATEGY

### Quality Management

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# 1 INTRODUCTION

## 1.1 Purpose and Scope of this Report

- 1.1.1 RPS was commissioned by Renewable Energy Systems (RES) Group Ltd. to produce a Farmland Bird Mitigation Strategy in support of a planning application for the proposed solar farm and associated energy storage facility at Cottered Airfield, Lodge Farm, Cottered, Buntingford (hereafter referred to as the 'Site').
- 1.1.2 An Ecological Assessment (EA) for the Site was produced by RPS, informed by surveys undertaken in 2023 and 2024. The 2023 breeding bird survey identified the presence of up to 48 skylark *Alauda arvensis* territories; although skylarks may use solar farm sites for foraging, they are less likely to nest within the solar arrays given that they are a species which prefers to nest in open fields. Therefore, these territories could potentially be lost as a result of the proposed development. Corn bunting *Emberiza calandra*, grey partridge *Perdix perdix*, Linnet *Linaria cannabina*, yellowhammer *Emberiza citronella*, and yellow wagtail *Motacilla flava* were also recorded within the Site boundary. A second season of breeding bird surveys was undertaken to further understand how these farmland bird species were using the Site on a multi-annual basis.
- 1.1.3 The second season of breeding bird surveys identified 20 skylark territories, with similar numbers of corn bunting, grey partridge, linnet, yellowhammer, and yellow wagtail as the previous year.
- 1.1.4 This document provides the necessary details of a mitigation strategy for skylark and other farmland bird species which will be adopted to compensate for the loss of any skylark territories and provide enhancement for the farmland bird community. This document includes details of the following:
- Purpose and conservation objectives for farmland birds;
  - Methodologies for skylark plots and farmland bird habitat management;
  - Locations for skylark plots and farmland bird habitat management; and
  - Persons responsible for implementing the proposed mitigation.
- 1.1.5 This document includes outline proposals for ecological mitigation and enhancement for farmland birds. Following approved planning consent a final mitigation strategy would be produced, providing detailed information on the agreed ecological mitigation measures.

## 1.2 Site Description

- 1.2.1 The Site is located adjacent to the A507 at Cottered Village, approximately 6 km to the northeast of Stevenage and 5 km to the west of Buntingford. The National Grid coordinates for the centre of the Site are TL307292. The Site is surrounded by arable fields subject to crop rotation.

## 1.3 Proposed Development

- 1.3.1 The proposals involve the development of a 49.9 MW ground-mounted solar farm. The works will comprise the installation of approximately 80 hectares (ha) of Photovoltaic (PV) panels which will be supported atop steel or aluminium frame tables which are driven or pushed into the ground, inverter and energy storage compound enclosures, access tracks, electrical infrastructure, and associated landscaping.

## 2 ECOLOGY OF FARMLAND BIRDS

- 2.1.1 Farmland birds are indicators of good quality, appropriately managed arable farmland and have been well monitored. Many farmland bird populations have declined due to the changing farming practices, causing the loss of foraging and nesting habitats (Agricology 2024).
- 2.1.2 During the breeding season, the availability of invertebrate prey is a key factor in nest site selection and breeding success. Foraging areas such as field margins and undrilled or wide spaced rows support a higher density of prey items. Access to areas where levels of invertebrate prey are consistent throughout the breeding season has been shown to be a core driver in breeding locations at the site level (Puttmanns et al., 2022).
- 2.1.3 Factors other than dietary requirements have been proven to affect the population density of farmland birds, with vegetation height and size of the site as two key indicators as to whether a location is suitable for breeding (Rahman *et al.*, 2012).
- 2.1.4 A mosaic of habitats, including arable, grassland and non-cropped areas, helps farmland birds flourish.

### **Corn bunting** *Emberiza calandra*

- 2.1.5 The corn bunting is a sparrow-sized, streaky brown bird associated with hedgerows and farmland that feeds on seeds and invertebrates. They are similar to skylark, but with a thicker bill and no crest. In the winter, it will join mixed flocks of buntings, finches, and sparrows to feed on seeds on farmland (BTO, 2024).
- 2.1.6 Male corn buntings are often seen perched on top of bushes singing loudly. The female builds her grass nest in rough grassy margins or arable crops and incubates the eggs by herself, usually not laying eggs until late May or into June. From laying to fledging, the nesting period lasts approximately 23 days (BTO 2024).

### **Grey partridge** *Perdix perdix*

- 2.1.7 The grey partridge has an orange face and a black horseshoe-shaped patch on its underparts. It is grey-brown above with a grey chest and orange-brown stripes down its flanks. It feeds on seeds, leaves and small invertebrates. When disturbed, it prefers to run instead of fly but will fly low to the ground if necessary (BTO, 2024).
- 2.1.8 Grey partridges breed in open scrub and farmland, close to hedges or other vegetation, laying approximately 14-15 eggs on the ground in a grass-lined scrape (BTO, 2024).

### **Linnet** *Linaria cannabina*

- 2.1.9 Linnets have a streaky brown appearance. Males have more distinctive plumage than females, with a grey head and pink patches on the forehead and chest. They also have a very melodious song. Linnets form big flocks during the winter months, sometimes mixing with other finches, and feeding on seeds (Wildlife Trusts, 2024).
- 2.1.10 Linnets require scattered bushes or scrub for nesting and seeds in the surrounding landscape for food. They lay between 4-5 eggs, with the nesting period lasting approximately 27 days (BTO, 2024).

### **Skylark** *Alauda arvensis*

- 2.1.11 The skylark is a medium-sized species typically associated with farmland and open countryside. Skylarks begin to establish territories as early as February, with the main nesting period between mid-April and early July (BTO, 2024).
- 2.1.12 Skylarks are capable of producing up to four broods due to this extended breeding season, typically laying three or four eggs per clutch. From laying to fledging, the nesting period lasts

approximately 26 days. Nests are located on the ground amongst short vegetation, in a shallow depression lined with grass (BTO, 2024).

- 2.1.13 Skylark is best described as a generalist in terms of diet; during the winter skylarks form groups and are frequently found foraging in set-aside land or stubble for grain (Gillings *et al.*, 2005). Studies have shown that large cereal stubble fields (<4.3 ha) with no or very low boundary features are the optimal habitat for winter foraging particularly for grains (Geiger *et al.*, 2013), whilst winter cereal crops provide sustenance via cereal leaves (Donald *et al.*, 2001).

### **Yellowhammer** *Emberiza citrinella*

- 2.1.14 The yellowhammer is a sparrow-sized, bright yellow bird of woodland edges, hedgerows, heath, and farmland that feeds on seeds and invertebrates. In the winter, it will join mixed flocks of other bunting species, finches, and sparrows to feed on seeds on farmland (Wildlife, Trusts 2024).

- 2.1.15 Male yellowhammers are unmistakable with a bright yellow head and underparts, brown back streaked with black, and a chestnut rump. In flight, it shows white outer tail feathers. (RSPB 2024). The female builds a cup-shaped nest from grass and moss, laying between two and six eggs (Wildlife Trusts 2024).

### **Yellow wagtail** *Motacilla flava*

- 2.1.16 The yellow wagtail is a summer visitor, breeding primarily in southern and eastern Britain. They are olive-green above and yellow below, with a yellow face. Males are brighter than females. Yellow wagtails have much shorter tails than the other two species of breeding wagtail in the UK (Wildlife Trusts, 2024).

- 2.1.17 The yellow wagtail likes damp marshes, meadows, and farmland, and spends much of its time running about on the ground. The yellow wagtail nests on the ground or in long grass, using plants, grasses and stems to build a cup shape which they line with fur. They can have up to two broods, each with five or six eggs. The nesting period lasts approximately 28 days (Wildlife Trusts, 2024).

## **2.2 Conservation Status**

- 2.2.1 Across the UK, corn bunting has experienced a substantial decline in breeding populations by 83%, grey partridge 92%, yellowhammer 62%, and yellow wagtail 69%, since 1967. Since 1995, linnet have declined by 20%, and skylark have declined by 15% (BTO 2024). This is largely thought to be due to changing farming practices including a move to autumn sown cereals (resulting in spring growth that is too dense for nesting), few winter stubble fields, an increase in pesticide use, increased grazing pressures and early cutting of grass (often for silage). As a result, the farmland birds identified in this document are included as red-listed Birds of Conservation Concern (BoCC)<sup>1</sup> and are Species of Principal Importance<sup>2</sup> within England.

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<sup>1</sup> Birds of Conservation Concern 5

<sup>2</sup> Under Section 41 of the Natural Environment and Rural Communities Act 2006

## 2.3 Legislation, Policy, and Guidance

- 2.3.1 Relevant legislation, policy guidance and both local and national Biodiversity Action Plans (BAPs) are referred to throughout this report where appropriate. Their context and application are explained in the relevant sections of this report.
- 2.3.2 The relevant articles of legislation are:
- The EC Birds Directive (Directive 2009/147/EC);
  - The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019;
  - The Wildlife and Countryside Act 1981 (as amended);
  - Countryside and Rights of Way (CRoW) Act 2000;
  - The Natural Environment and Rural Communities (NERC) Act 2006;
  - The National Planning Policy Framework (NPPF) 2023;
  - The UK Biodiversity Framework 2024; and
  - Hertfordshire Biodiversity Action Plan (BAP).
- 2.3.3 All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981 (as amended), as updated by the CRoW Act 2000. It is an offence to:
- Intentionally kill, injure, or take any wild bird;
  - Intentionally take, damage, or destroy the nest of any wild bird while it is in use or being built; and
  - Intentionally take or destroy the egg of any wild bird.
- 2.3.4 Additionally, birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during development even in circumstances where that development is fully authorised by consents such as approved planning permission.

## 2.4 Habitat Requirements

- 2.4.1 The farmland bird species targeted in this strategy are widespread, resident species in the UK, with the exception of yellow wagtail which is a summer visitor (BTO 2024).
- 2.4.2 Lowland cereal crops are considered to be the most important habitat for these species in the UK in terms of the overall number of breeding pairs supported, however, population density in these areas is lower due to a shorter breeding season as a result of harvesting (Donald and Vickery, 2000).
- 2.4.3 The presence of field margins is considered integral to the habitat requirements for farmland bird species, as studies have shown that margins are preferred above all other habitats for foraging purposes, particularly during the breeding season. Availability of suitable invertebrate prey items, site size and low or no boundary features are the primary factors influencing the presence or absence of skylark and other farmland birds in lowland habitats. Studies have also shown that the presence of skylark plots and additional tramlines in winter cereals increased the number of breeding territories (Schmidt *et al.*, 2017), highlighting the value of such conservation measures.
- 2.4.4 Limited research has been undertaken on the effects of PV solar panels on birds in the UK, however, in a study by Montag *et al.* (2016) 'The Effects of Solar Farms on Local Biodiversity: A Comparative Study', greater diversity and abundance of birds of conservation

concern utilise solar arrays when compared with control plots, indicating that solar farms may be able to provide an important resource for declining species such as skylark. The study concluded that while skylarks rarely utilise solar sites for nesting, they do incorporate solar sites into their territorial boundaries for foraging. There is little research beyond Montag et al. (2016) into bird use of solar farms; however, there is some evidence to suggest that ground nesting species including skylark and corn bunting will continue to nest, as well as forage, in solar farms over multiple years, which demonstrates the use of grassland on solar sites by a wide variety of species (including those of conservation concern).

## 2.5 Distribution on Site

### 2023

- 2.5.1 A total of five breeding bird surveys were undertaken across the Site during optimal conditions in spring and early summer 2023 by an experienced RPS ornithologist.
- 2.5.2 The surveys identified a total of 45 skylark territories across the Site, distributed within the large open arable fields in the northernmost section of the Site. Birds within the Site were mostly recorded singing or calling overhead.
- 2.5.3 Eleven territories were recorded on the edge boundaries of the Site. It is assumed these individuals were nesting in adjacent fields and crossing into the Site as the outer limits of their territory (and therefore are only likely using the Site for foraging).
- 2.5.4 The Site was therefore considered to be of county-level importance.
- 2.5.5 At the time of the survey undertaken in 2023, the fields were arable with a maize crop.
- 2.5.6 The locations of skylark territories identified across the Site are shown in Figure 2.1.

### 2024

- 2.5.7 The 2023 results prompted a second season of breeding bird surveys in 2024 to determine whether the number of skylark territories was a constant or particularly high in 2023 and whether the presence of corn bunting was a constant.
- 2.5.8 The Site was re-surveyed in 2024 which included the proposed mitigation areas to assess whether they would be suitable for the targeted species or whether they were already at carrying capacity and therefore, unsuitable.
- 2.5.9 A total of six breeding bird surveys were undertaken across the Site during optimal conditions in spring and early summer 2024 by an experienced RPS ornithologist.
- 2.5.10 These surveys followed the Bird Survey Guidelines (Bird Survey and Assessment Steering Group, 2024) to include a later survey in July to capture the later nesting corn bunting.
- 2.5.11 A total of 20 skylark territories were identified as part of the 2024 surveys; half the numbers recorded in 2023. One corn bunting, one yellow wagtail, and six yellowhammer territories were also identified, with other individuals using the Site for foraging.
- 2.5.12 Surveys of the proposed mitigation areas show that all species of conservation concern were recorded either within the areas or in very close proximity but not in large numbers giving the potential for enhancement.
- 2.5.13 The survey results from the 2024 on Site breeding bird surveys are shown in Figure 2.2.
- 2.5.14 One skylark territory was confirmed in Cromer Heath, no other territories were recorded in the mitigation areas, however, all the targeted species were recorded using the areas.



**Figure 2.1: Skylark territories recorded on Site in 2023**



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- Legend**
- Site Boundary
  - Skylark Territories
  - Edge Territories

Document: B.1 ECOLOGY794-NI-P&E-NI2747 Beane Solar Tech\Drawings\NI2747-0006-01 Skylark Territories.aprx FBMS\_Fig2.1 Skylark Territories

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**Figure 2.2: Farmland Bird territories recorded on Site in 2024**



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- Legend**
- Site Boundary
  - Red List Species Breeding Territory
  - Amber List Species Breeding Territory

- Species List:**
- CB** Corn Bunting (1)
  - P.** Grey Partridge (1)
  - HS** House Sparrow (1)
  - LI** Linnet (1)
  - S.** Skylark (20)
  - Y.** Yellow Wagtail (1)
  - YW** Yellowhammer (6)
  - WH** Whitethroat (1)
  - WP** Wood Pigeon (4)
  - WR** Wren (5)

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## 3 MITIGATION STRATEGY

### 3.1 Objectives

- 3.1.1 Farmland bird mitigation would be delivered through arable farmland modification and grassland management. This would include the implementation of skylark plots, which are undrilled patches within arable fields (further described in Section 3.3). The skylark plots would be created in adjacent arable fields within the same land ownership. Grassland will be managed within the Site boundary. Grassland and pasture fields outside the Site boundary which are also under the same ownership, will be managed for skylark and the farmland bird community as set out in Section 3.4 below.
- 3.1.2 The total area available for farmland bird mitigation is approximately 8 ha within the Site boundary (comprised mainly of areas left free from development under existing pylons and an area left free in the southern-most field – field 4 within this Report) and 16 ha adjacent to the site boundary (shown in Figure 3.1). This area is broken down into parcels of land which are described in section 3.2 below.
- 3.1.3 These areas are currently intensively farmed or grazed with a lack of features such as undrilled patches, wide field margins or set-aside land. Accordingly, the current value for skylark is limited and these areas could readily be enhanced through skylark plot provision. RSPB guidance notes that:  
  
'winter cereal fields with skylark plots hold more nesting skylarks through the breeding season than conventional cereal fields.'
- 3.1.4 This strategy is considered to provide a robust approach to mitigate the impacts of the proposed development on skylark and farmland birds.

### 3.2 Areas Covered by the Mitigation Strategy

- 3.2.1 Five offsite parcels of land are being proposed under the strategy and will comprise a mixture of onsite and offsite mitigation, totalling 28 ha. The onsite areas are referred to as 'Fields,' with the offsite areas referred to by their parcel names and are shown in Figure 3.1. It should be noted that the skylark plots shown in Figures 3.2 to 3.3 are not drawn to scale.
- 3.2.2 A 25 m wide swathe of grassland spanning the width of the Site, buffering the pylons in Fields 1 and 2, would be left free of solar panels and managed for farmland birds.
- 3.2.3 Cromer Heath (6.4 ha), off Site, could support approximately six plots with the grassland margin increased in size to a width of 5 m (Figure 3.2).
- 3.2.4 Bundlescroot (7.5 ha), off Site, could support approximately eight plots and is directly adjacent to the south-eastern Site boundary. The grassland margin would be increased in size to a width of 5 m.
- 3.2.5 A 5 m grassland border between the fence line and the solar arrays would be managed to benefit skylark.
- 3.2.6 Lux Grove (1.8 ha) and New Grounds East and West (4.5 ha) are too small for skylark plots and will be managed as grassland for skylark and the farmland bird community (Figure 3.3). Lux Grove is a long narrow strip of grassland, separated from New Grounds East and West by a tall treeline. Whilst the treeline may provide limited opportunities for nesting, the adjacent and surrounding grassland, hedgerows, and arable fields are suitable, and will be beneficial for all farmland birds.
- 3.2.7 As indicated above, the mitigation areas all comprise arable and pasture fields. These areas are not managed specifically for wildlife and are likely to be currently suboptimal for farmland birds. As

such, through appropriate management measures, these areas can be significantly enhanced for farmland birds.

- 3.2.8 Consideration has been given to RSPB guidance (RSPB, 2024) which indicates that fields supporting skylark should be more than 5 ha in size (or 10 ha if bounded by trees or woodland), with plots located at least 50 m from field boundaries. New Grounds East and West are below the 5 ha threshold, however, whilst research indicates skylark prefer open fields not enclosed by woodland/trees, smaller fields will also provide supporting foraging habitat and, in some cases, territory density can increase with decreasing field size (Eraud *et al.*, 2002).
- 3.2.9 Based on a possible nesting density of up to 6 skylark territories per ha within more suitable habitats, it is considered the mitigation areas could support an equal number of skylark territories and increase breeding success. Nesting success is also likely to be increased through appropriate targeted grassland management for farmland bird species. As such, the areas included within the mitigation strategy are considered to provide suitable mitigation for the loss of nesting opportunities through solar panel deployment.

### 3.3 Creation of Skylark Plots

- 3.3.1 Skylark plots will be created following the Countryside Stewardship management practices as set out in AB4: Skylark Plots (<https://www.gov.uk/countryside-stewardship-grants/skylark-plots-ab4>) and following guidance provided by the RSPB.
- 3.3.2 The provision of skylark plots at a ratio of two plots for each territory lost is an accepted and widely used mitigation strategy for developments that have the potential to impact breeding skylark. Skylark plots also benefit other farmland bird species by increasing foraging opportunities and increasing breeding success.
- 3.3.3 Skylark plots are undrilled patches within arable fields best suited to fields sown with winter cereals, more than 5 ha in size and with an open aspect. Each plot will be at least 3 metres (m) wide, with an area of between 16 m<sup>2</sup> and 24 m<sup>2</sup>. The plots would be created by either:
- Turning off the drill during sowing to leave an unsown plot; or
  - Sowing the crop as normal and spraying with herbicide to create the plot by 31st December.
- 3.3.4 Plots would be unconnected to any tramlines and no closer than 50 m to field margins.
- 3.3.5 These areas would provide uncultivated ground which will establish with arable weeds to provide suitable foraging for skylarks, which has been shown to increase breeding success.
- 3.3.6 In accordance with RSPB guidance, the plots will be managed with the same treatments as the remainder of the field after drilling. There is no requirement to keep the plots weed-free, however spot-treating with herbicide in April will help skylarks to access their nesting sites.
- 3.3.7 Mechanical weeding of crops containing skylark plots will destroy any nests present and is therefore not recommended.
- 3.3.8 Hedgerows would be managed around the boundaries of the mitigation areas to ensure that the skyline remains mostly unbroken. Hedgerows would be cut between January and March to ensure that winter foraging opportunities for other species are not lost and impacts to breeding birds utilising the hedgerows are avoided.

### 3.4 Grassland Management

- 3.4.1 Managing any grassland for its invertebrate interest will be beneficial for skylarks and other farmland birds as their chicks feed almost exclusively on invertebrates during the first few weeks of their lives. The optimum grassland/vegetation height is no more than 50 centimetres (cm) as skylark tend to avoid vegetation that is higher than 50 cm. Where an existing path is present

through the grassland, it should be cut short (with the same route cut each time) to create a variety of edge habitats. This will increase the overall availability of nesting resources.

- 3.4.2 To compensate for the reduced availability of farmland bird foraging and nesting opportunities due to the solar array, areas of grassland would be managed appropriately. Any grassland cutting (if necessary) would not be undertaken until after May, with subsequent cuts at least seven weeks apart, to allow for any second or third broods to fledge.
- 3.4.3 Some other measures, including the use of spring cereal or spring break crops and leaving over-wintered stubbles, are also beneficial to skylark and other farmland bird species. Opportunities for using these measures should be sought where possible.
- 3.4.4 These measures would not only support skylark, yellowhammer, corn bunting, grey partridge, and yellow wagtail but also a broad range of other common farmland and woodland bird species that were also recorded during the 2023 and 2024 breeding bird surveys.

### 3.5 Other Mitigation

- 3.5.1 As part of the Landscaping plans, a series of hedgerows are to be planted along the eastern boundary of the Site. This includes a species rich hedgerow that would be planted on an earth mound along the eastern boundary of the Site, and a species rich hedgerow along the public right of way (PRoW) through the centre of the Site. These hedgerows would provide areas of cover, alternative nesting sites and additional foraging opportunities, increasing the range of food sources available to farmland bird species throughout the year.
- 3.5.2 A species rich grassland will be planted beneath the solar arrays which will help increase the reduced foraging opportunities for farmland birds and improve the biodiversity of the Site.
- 3.5.3 A species rich grassland will be planted in the southern half of Field 4 which will help increase the reduced foraging opportunities for farmland birds and improve the biodiversity of the Site.

### 3.6 Timing of Development Works

- 3.6.1 It is recommended that any works relating to the proposed development, including hedge removal and vegetation clearance, are undertaken outside of the breeding bird season (March to August inclusive) to avoid the risk of damaging, or destroying active nests or newly fledged on Site. Where groundwork cannot be undertaken outside of the breeding season, works should be subject to a pre-construction nesting bird check and ecological supervision.
- 3.6.2 If works are to be undertaken within the breeding season (March to August inclusive), a suitably qualified ecologist would undertake a nesting bird check of all areas to be impacted. This includes areas suitable for ground-nesting birds such as the target farmland bird species referred to in this document. If any nests are located, it is recommended that the locations of these are made known to all personnel on Site. A suitable exclusion zone would be set up to safeguard the nest.

### 3.7 Population Monitoring

- 3.7.1 Due to a lack of data regarding skylark activity in mitigation areas post-development, it is recommended that follow up breeding bird surveys be conducted to establish the number, and locations of territories, and thus the success of the final, detailed mitigation strategy. Available data on the persistence of skylarks within solar arrays and mitigation areas is contradictory, with the sole study conducted by a consultancy and not peer-reviewed (Montag et al., 2016). It is expected this will change as further research is carried out and studies are published.
- 3.7.2 It is recommended that one annual survey be undertaken in peak breeding season for skylark (early to mid-May) which will record the presence of skylark on Site, along with any evidence of breeding (such as carrying food, nesting materials or faecal sacs) within both the mitigation areas on and off Site and the solar arrays. The surveys would also target other farmland bird species,

such as those referred to in this document. The visits should be undertaken every year for a suggested period of five years to provide a suitable basis for analysis of the population dynamics.



**Figure 3.1: Extent of land available for farmland bird mitigation**



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**Legend**  
Site Boundary  
Land Owner Fields  
Field Boundaries

Rev	Description	By	CB	Date



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Project Beane Solar Farm  
Title Farmland Bird Mitigation Overview

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**Figure 3.2: Proposed Farmland Bird Mitigation**



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- Legend**
- Site Boundary
  - 50m Powerline buffer
  - Land Owner Fields
  - Field Boundaries
  - Mitigation Field, 50m Buffer
  - Managed Grassland
  - Potential Skylark Mitigation Plot

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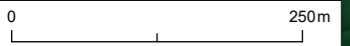
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## REFERENCES

- Agricology (2024). Available online at: <https://agricology.co.uk/resource/farmland-bird-conservation> [Accessed August 2024].
- Bird Survey and Assessment Steering Group. (2024). Bird Survey Guidelines for assessing ecological impacts <https://birdsurveyguidelines.org> [accessed July 2024]
- British Trust for Ornithology (2023/4) Available online at: <https://www.bto.org/understanding-birds/welcome-birdfacts> [Accessed August 2024].
- Donald, P.F. and Vickery, J.A. (2000). The importance of cereal fields to breeding and wintering Skylarks *Alauda arvensis* in the UK. *Ecology and Conservation of Lowland Farmland Birds* p140-150.
- Donald, P. F., Buckingham, D. L., Moorcroft, D., Muirhead, L. B. Evans, A. D. and Kirby, W. B. (2001). Habitat use and diet of skylarks *Alauda arvensis* wintering on lowland farmland in southern Britain. *Journal of Applied Ecology* 38 (3) 536-547.
- Eraud, C. and Boutin, J. M. (2002). Density and productivity of breeding Skylarks *Alauda arvensis* in relation to crop type on agricultural lands in western France. *Bird Study*, 49:3, 287-296.
- Gieger, F., Hegemann, A., Gleichman, M., and Flinks, H. (2013). Habitat use and diet of Skylarks (*Alauda arvensis*) wintering in an intensive agricultural landscape of the Netherlands. *Journal of Ornithology* 155(2).
- Gillings, S., Newson, S.E., Noble, D.G. and Vickery, J.A. (2005). Winter availability of cereal stubbles attracts declining farmland birds and positively influences breeding population trends. *Proceedings of the Royal Society B* 272: 733–739.
- Montag H, Parker G and Clarkson T. (2016). The effects of solar farms on local biodiversity: a comparative study. *Clarkson and Woods and Wychwood Biodiversity*.
- Puttmanns, M., Bottges, L., Filla, T., Lehmann, F., Martens, A.S., Siegel, F., Sippel, A., van Bassi, M., Balkenhol, N., Waltert, M., and Gottschalk. E. (2022). Habitat use and foraging parameters of breeding Skylarks indicate no seasonal decrease in food availability in heterogeneous farmland *Ecology and Evolution* 12 (1).
- Rahman, M. L., Tarrant, S. McCollin, D. and Ollerton, J. (2012). Influence of habitat quality, landscape structure and food resources on breeding skylark (*Alauda arvensis*) territory distribution on restored landfill sites. *Landscape and Urban Planning* 105 (3) 281-287.
- RPS (2024). Cottered Solar: Ecological Assessment (unpublished). RPS, Abingdon
- RSPB (2024). Skylark advice for farmers. Available online at: [www.RSPB.org.uk](http://www.RSPB.org.uk).
- Schmidt, J.U., Eilers, A., Schimkat, M., Krause-Heiber, J., Timm, A., Nachtigall W. and Kleber, A. (2017). Effect of Sky Lark plots and additional tramlines on territory densities of the Skylark *Alauda arvensis* in an intensively managed agricultural landscape *Bird Study*, 64:1, 1-11.
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands, and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.

Wildlife Trusts (2024). Available online at <https://www.wildlifetrusts.org/wildlife-explorer> [Accessed August 2024].