



EAST PARK ENERGY

East Park Energy

EN010141

Technical Note on Skylark Metric

Document Reference: EN010141/DR/8.73

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009: Regulation 5(2)(q)

August 2026

Version P01

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Planning Act 2008

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Forms and Procedure) Regulations 2009

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APFP Regulation Reference:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference:	EN010141
Application Document Number:	EN010141/DR/8.73
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Version	Date	Status
P01	August 2026	Deadline 6

Client Name: BSSL Cambsbed 1 Limited

Site Name: East Park Energy

Project Ref: EN010141

Date: 23rd July 2026

Skylark Metric

Introduction

This technical note is provided in response to comments made by Cambridgeshire County Council (CCC) [REP4-033] with regards to the assessment of skylark. Specifically, CCC '*seek the applicant to confirm how this scheme compares to these mitigation frameworks [skylark metrics] and how applicable it is to large solar farms of size of East Park.*'

Briefly, there are two published mitigation frameworks relating to skylark, both of which broadly utilise known average skylark territory densities within certain habitat types to estimate post-development pairs and compare this to the baseline value. This allows a numerical before and after comparison of the number of territories. These metrics are the Fox metric¹, first published in 2022 and the Arventus Metric², first published in 2025. Discussion of the metrics is available within a recent Solar Energy UK paper on skylarks and solar farms³.

For the purposes of this assessment the Fox (2022) metric has been utilised. This metric is considered the most appropriate as it has been developed specifically for use on solar sites, and is the most well-established metric.

It should be noted that both metrics focus only on territory density, and do not account for other factors that contribute to a sustainable skylark population, in particular breeding productivity.

Methods

The method used broadly follows Fox (2022), however this has been adapted for the purposes of the Scheme. The Fox method uses average territory densities across different habitats to predict the number of territories that could be supported by a receptor site, and so determine the quantum of land required to reach a targeted compensation percentage against a known (or predicted) baseline value.

The Fox method also allows the user to account for other incidental benefits, such as '*where the development site will retain or create sufficient grassland foraging habitat for skylarks, territories close to the edges of the development may benefit through increased breeding productivity*'.

While the method was designed to calculate the area of land required for mitigation, it has been adapted slightly to instead predict the number of territories likely to be supported by the Scheme, and so calculate the percentage of territories mitigated for.

¹ Fox (2022) *Blithe Spirit: Are Skylarks Being Overlooked in Impact Assessment?* InPractice Iss. 117. CIEEM, Winchester.

² <https://arventus.co.uk/skylark-metric>

³ <https://solarenergyuk.org/wp-content/uploads/2026/06/Solar-Farms-Skylarks-Draft-2026-1.pdf>

Therefore the methodology used for this calculation is as follows:

1. Use survey data to quantify the number of breeding territories in the development footprint.
2. Calculate the density of territories across all skylark-suitable habitat to be impacted.
3. Accounting for other ecological effects inherent in the proposals that may allow for a reduction in the need for compensation. For example, Fox (2022) assumes that 50% of on-site territories occurring within 75 m of the development edge may not need to be compensated when suitable foraging land will be present on site.
4. Calculate the number of territories able to be supported by the Scheme using research-based figures by crop type/land use.
5. Calculate the net change in territories before and after development and percentage mitigation delivered.

Limitations

The Fox method only assesses territories, and does not look at overall productivity of birds, which would account for factors including the number of repeat nesting attempts, fledging success, chick fitness and survival rates.

Fox (2022) explicitly states the following about the methodology: *'The prototype methodology given here is not perfect, makes several assumptions and is as yet without monitoring data. However, it is anticipated to provide a starting point for discussion on GNB [ground nesting bird] mitigation'*. As such, the numbers provided should not be taken as absolute and the methodology is only one way of determining appropriate mitigation.

For the purposes of this assessment only solar areas have been assessed. It is noted that cable corridors may experience temporary disruption during construction however as noted in **ES Vol 2 Appendix 2-1 Construction Phasing and Resource Schedule [APP-055]** this works element is anticipated to last approximately 12 months. Following completion of works this land would be restored to a similar land use, and as such, this is not considered a substantive limitation to the assessment.

Metric Results

As outlined in **ES Vol 2 Appendix 7-2 Breeding Bird Survey Report 2025 [REP3-037]** the skylark baseline within the breeding bird survey area (i.e., the Order Limits excluding grid connection routes) is 125 territories. The size of the surveyed Site is 731.44 ha, which with 125 estimated skylark territories, results on average to be 0.17 on-Site skylark territories per ha.

A total of 34 territories are located within 75m of the boundary, and as such at 50% mitigation accounting for incidental benefits (e.g., to foraging), this reduces the compensation requirements by 17 territories, leaving 108 territories to be compensated for.

The Site offers significant ecological benefits across a range of receptors, including the farmland bird assemblage as a whole. Further, habitat creation will be targeted to increase the number of nesting attempts possible in each breeding season, an aspect of productivity not accounted for within the Fox metric. As such 100% mitigation is not considered necessary.

125ha of receptor site (compensation areas) have been identified within the Site in the Outline Farmland Bird Mitigation Strategy at Appendix C of the **outline Landscape and Ecological Management Plan [REP4-101]** to be managed for ground nesting birds and will include no agricultural

inputs (e.g., pesticide, herbicides). Given the proposed management, natural grassland (i.e., an unmanaged grassland) is not considered to properly reflect the compensation proposed and therefore the figure for organic set-aside (0.56 territories/ ha) has been used to calculate compensation. $125\text{ha} \times 0.56 \text{ territories/ ha}$ gives 70 territories theoretically able to be supported by compensation areas post-development.

Therefore, the 70 territories theoretically supported by compensation areas offers a mitigation of 65% of the 108 territories to be compensated for.

Table 1: Summary of Fox Skylark Metric Results

Step	Description	Result
1	Quantify baseline	125 territories (excluding cable route)
2	Calculate density	$125 / 731.44 = 0.17 \text{ territories/ ha}$
3a	Decide on territories to be compensated	Discussed below.
3b	Positive spillover effects	34 territories are located within 75m of the boundary. $50\% \times 34 = 17$ $125 - 17 = 108 \text{ territories to be compensated for.}$
4	Determine territories able to be supported by mitigation areas	125ha of compensation area, using the figure for organic set-aside (0.56 territories/ ha) $125 \times 0.56 = 70$
5a	Calculate the change in territories	125 territories at baseline, with estimated 17 to be supported by positive spillover effects = 108 territories. post development = 70 70/108=65%

Discussion

Results

It is noted that the territory density within the site is 0.17 birds per ha, which aligns with the national average for 'intensive cereals' as stated in Fox (2022).

It should be noted that the Fox metric does not necessarily require mitigation equivalent to 100% of the identified impact, such as compensation on a 1:1 basis. The Fox (2022) methodology states that ***'Depending on the balance of other likely ecological impacts and benefits, there may be an 'acceptable' number of un-compensated displaced territories. Ultimately, this will be a professional judgement call based on site and development specifics'.***

It should be noted that the Scheme is anticipated to result in benefits to the overall farmland bird assemblage, and also deliver wider biodiversity benefits as demonstrated by the biodiversity net gain calculations [REP3-068] with a commitment to achieve a minimum of 70% net gain in area-based habitat units, 30% net gain in hedgerow units, and 5% in watercourse units. As such, in line with Fox (2022), 100% mitigation is not considered necessary in this instance.

In accordance with the methodology described above, the proposed mitigation would provide mitigation equivalent to 65% of the baseline skylark territories. Although productivity is not currently incorporated into established skylark mitigation metrics, the predicted reduction in the number of territories could be used to estimate the corresponding increase in breeding productivity that would

be required within the retained and replacement territories to offset that reduction and achieve no net loss to the skylark population.

To provide mitigation equivalent to 100% of the baseline territories, productivity within the territories supported by the proposed mitigation would need to be approximately 1.54 times the baseline level. This is considered to fall within realistic bounds, particularly because the proposed grassland management would be expected to provide conditions suitable for repeat nesting attempts throughout the breeding season. When the number of territories supported and the potential increase in breeding productivity associated with those repeat nesting opportunities are considered together, it is therefore considered likely that the Scheme would avoid a net detriment to the local skylark population.

The RSPB states that skylarks “*need to make two or three nesting attempts between April and August to sustain the population*” and that crops such as winter wheat generally become too tall and dense to permit more than a single brood. On an illustrative basis, an increase from two nesting attempts in existing agricultural habitats to three nesting attempts within specifically managed mitigation grassland would represent a 1.5-fold increase in nesting opportunities. This is broadly comparable to the estimated 1.54-fold increase in productivity required, although the relationship between nesting attempts and overall breeding productivity will also depend on other factors such as nesting success, clutch size and chick survival.

Conclusion

The Fox metric has been applied as an appropriate and established framework for assessing the likely change in skylark territories arising from the Scheme, while recognising the inherent limitations of a metric based principally on territory density. The assessment identifies a baseline of 125 territories, of which 108 are treated as requiring compensation after allowance is made for the anticipated positive effects on territories close to the development boundary. The 125 ha of specifically managed compensation habitat is predicted to support approximately 70 territories, representing mitigation equivalent to 65% of that adjusted requirement.

The Fox methodology does not prescribe full replacement of every displaced territory and expressly allows the appropriate level of compensation to be determined by professional judgement, taking account of the wider ecological effects and benefits of the development. In this case, the territory-based calculation does not account for the improved breeding conditions expected within the proposed mitigation grassland, including the opportunity for repeat nesting attempts throughout the breeding season. The estimated increase in productivity required to offset the residual reduction in territory numbers is approximately 1.54 times the baseline level, which is considered realistically achievable in the context of the proposed habitat management, although actual productivity will also depend on factors such as nesting success, clutch size and chick survival.

Taking account of the number of territories predicted to be supported, the potential improvement in breeding productivity and the wider benefits of the Scheme for farmland birds and biodiversity, it is considered that the proposed mitigation is proportionate and ecologically appropriate. On that basis, the Scheme is considered likely to avoid a net detriment to the local skylark population, notwithstanding that the territory-based output of the Fox metric is below 100%.