Solar Farms & Skylarks

June 2026

About us

Solar Energy UK is a leading trade association championing the full solar and energy storage ecosystem. Backed by our members, we bring together a dynamic, member-driven community of over 440 businesses and partners, from ambitious, forward-thinking SMEs to globally recognised brands.

As a non-profit, we're united by a forward-looking mission: to catalyse the collective strengths of our members to build a clean energy system for everyone's benefit.

RSPB

The RSPB supports the overall intent and direction of this paper in promoting a whole-farm approach and a range of mitigation measures for skylark conservation and we very much welcome this work in addressing the needs of this red-listed species in the context of solar development. We recognise the important role of solar power in helping us reach net zero and how this needs to be done in a way that also protects and restores nature. We highlight the importance of continuing to build the evidence base to better understand how different interventions perform across farming systems and to ensure that established approaches are appropriately reflected within a flexible, context-dependent mitigation toolkit.

Acknowledgements

Solar Energy UK would like to thank the many individuals and stakeholders who contributed to the development of this topic paper.

In particular, we are grateful to the following organisations for sharing their knowledge and experience as peer reviewers:

- Ben Secker, Department of Natural Sciences, Manchester Metropolitan University
- Charlotte Peacock, Arventus
- Dan Foy, Stantec
- Dominic Woodfield, Bioscan
- Harry Fox, Clarkson & Woods Ltd
- Luke Nelson, Wildlife Trust
- Paul Wilkinson, RSPB
- Sam Manning, RSPB
- Stuart Sharp, Lancaster Environment Centre, Lancaster University
- Tammy Smalley, Wildlife Trust

We also thank Solar Energy UK's Planning and Land Use Steering Group, Natural Capital Steering Group and Nationally Significant Infrastructure Project Forum for their time and valuable input.

Finally, we extend our sincere thanks to Howard Fearn of Avian Ecology for authoring this paper and for the considerable time and expertise dedicated to its preparation.

Please note that the paper and its contents do not necessarily represent the views of any of these organisations.

Executive Summary

This Topic Paper considers the relationship between solar farm developments, planning policy and the conservation of Skylarks (Alauda arvensis) in England. Its intended aim is to assist planning authorities, developers, and other stakeholders in making informed decisions on proposals that affect breeding Skylarks, particularly where a solar farm is proposed on an intensively managed arable location.

Skylarks are a red-listed farmland bird species of national conservation concern. Their population has declined markedly in recent decades, largely because of agricultural intensification, changes in cropping patterns, and the reduction of suitable nesting habitats. Against this backdrop, the expansion of solar energy across the UK's rural landscape has raised questions about potential impacts on Skylark populations, as well as opportunities for biodiversity enhancement.

Evidence from multiple research programmes—including a member journal piece published in the Chartered Institute of Ecology and Environmental Management 'In Practice' journal (Fox, 2022), Solar Energy UK (2023–2025), and the University of Cambridge (2025)—indicates that well-managed solar farms have the potential to play a positive role in supporting farmland biodiversity. Studies have demonstrated that sites managed for ecological outcomes often support higher overall bird abundance and species richness than adjacent arable farmland (e.g. Montag et al., (2016), Copping et al., (2025)). Although Skylarks are displaced from nesting within the footprint of solar arrays, the species continues to forage within and around these developments.

Skylarks are listed as a Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and are recognised as a priority species under the UK Biodiversity Framework. Combined with national and local planning policies, this legal status places a duty on Local Planning Authorities (LPAs) to consider avoidance, then mitigation measures, before planning consent can be provided. However, Natural England's standing advice on wild birds does not require complete avoidance of impacts, or for mitigation to be based on the number of breeding pairs potentially displaced from a development site, rather focus on 'no net loss of habitat'.

Appropriate mitigation and compensation measures have often comprised the establishment of Skylark plots. Within an arable landscape, Skylark plots have been demonstrated to increase productivity by at least 50%, whilst taking 0.3% of land out of production; however, plots can be challenging to implement over the operational lifetime of a solar farm development due to land costs and availability, with land-managers sometimes reluctant to commit to their provision over the relatively long period of solar farm operation. Alternative mitigations approaches include meadow grassland creation, set-aside or spring sown crops and the maintenance of uncultivated field margins, whilst maintaining open sightlines required by the species.

If properly managed, these approaches can provide long-term ecological benefits that extend beyond Skylarks, supporting a wide range of farmland birds and invertebrates. Many solar farms are located on intensively managed arable land; by reducing chemical inputs and promoting semi-natural vegetation cover, such developments can deliver a meaningful biodiversity uplift while continuing to serve their primary function as renewable energy infrastructure. This in turn can provide a meaningful contribution to Local Nature Recovery Strategies, through habitat and connectivity improvements. Solar developments differ from most other forms of construction in that they are reversible, low-impact, and capable of long-term ecological enhancement. When designed with nature in mind, and properly managed, they contribute to national objectives for both biodiversity recovery and climate mitigation.

This Topic Paper addresses a growing inconsistency in the treatment of Skylark impacts within solar farm planning decisions. While Skylarks are rightly recognised as a species of conservation concern, mitigation requirements are sometimes applied in a way that assumes complete habitat loss and necessitates pair-for-pair replacement. Current ecological evidence and planning policy do not support such a universal approach. This paper therefore reviews the available ecological evidence, relevant planning policy, and practical mitigation approaches in order to support proportionate, evidence-led decision-making.

Decision-makers should therefore consider impacts on Skylarks in this wider context, balancing localised loss of nesting sites against the significant ecological gains solar energy developments can potentially deliver.

Introduction

Solar energy is a central component of the United Kingdom's renewable energy transition. As the deployment of solar farms accelerates in response to national net-zero commitments and energy security priorities, increasing attention is being paid to their relationship with biodiversity.

Among farmland birds, the Skylark has become a focal species in planning discussions because of its ground-nesting ecology and conservation status. Questions frequently arise regarding whether solar developments lead to unacceptable impacts on breeding populations and what forms of mitigation or compensation may be appropriate.

This Topic Paper has been prepared to support consistent, evidence-based and policy-compliant planning decisions. It summarises the current understanding of Skylark ecology, reviews available research on biodiversity outcomes at solar farms, and discusses how planning policy can be applied proportionately in this context.

Solar Farms and Breeding Birds

Research into the biodiversity outcomes of solar developments has expanded in recent years. The annual Solar Habitat Reports, commissioned by Solar Energy UK (2023, 2024, 2025) indicate that well-managed solar sites host diverse assemblages of invertebrates, plants, and birds, including a wide range of species of conservation value (Solar Energy UK 2024).

Similarly, the University of Cambridge's Centre for Landscape Regeneration (Copping et al., 2025) explored bird populations on six solar farms in the East Anglian Fens, working with RSPB scientists. The research led by RSPB Conservation Scientist Dr Joshua Copping shows that, under certain conditions, solar farms can support higher abundances of some farmland bird species than intensively managed arable land. Those solar farms which were well managed consistently showed benefits for a broad range of species listed as of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. A Lancaster University thesis by Secker (2024), concluded that solar farm age was an important predictor of all bird species richness on solar parks, which was considered likely to be related to increases in structural diversity and habitat heterogeneity occurring over time as the solar farm matures. Secker also documents a case of Corn Buntings, another red-listed ground nesting farmland bird, successfully nesting within a sensitively managed solar farm (Secker et al., 2026).

The RSPB considers that there is growing evidence to suggest that solar farms can be beneficial to nature when they are not built on sites that are already important for wildlife, and notes that solar farms managed with nature in mind can boost pollinator numbers (RSPB, 2025).

These findings clearly demonstrate that solar farms can benefit farmland birds including multiple species of Principal Importance, and wider biodiversity increases, in intensively managed arable-dominated landscapes; however, conservation focused management is required to achieve positive outcomes.

Overview of UK Skylark Ecology, Population Status and Trends

The Skylark is widespread across the UK, traditionally linked to open farmland, meadows, and heathlands. Famous for its distinctive song, flight and cultural significance, the species has undergone major declines over the past half-century. Skylark numbers fell by around 60% between the mid-1970s and late 1990s, with slower declines continuing into the 21st century before a more recent levelling-off, with some modest regional upturns.

This prolonged population decline led to the species' listing on the UK 'Red List' of Birds of Conservation Concern (Stanbury et al., 2021). Despite substantial declines, Skylarks remain a familiar feature of the UK countryside, with an estimated 1.6 million breeding pairs in 2016 (Woodward et al., 2020). According to the most recently available report by the British Trust for Ornithology (BTO) (Heywood et al., 2025), numbers have increased by 9% during the past decade and almost 20% in the last five years in south-east England and the East Midlands. These figures buck the long-term trend, although the recent increases in England and Scotland are not mirrored in Wales, where there has been a 23% decline since 2016. he species nests on the ground in open habitats with short vegetation (20-50cm high) and clear visibility to detect predators. Skylarks favour open arable landscapes, uplands, and coastal saltmarsh, where breeding densities are typically highest, whilst intensively managed dairy and silage fields support fewer pairs.

Consequently, land management practices strongly influence local and regional Skylark abundance. Within arable landscapes, different crop-types support varying densities of Skylarks, meaning that abundance and breeding productivity are heavily dependent on crop variation and populations are forced to adapt to local agricultural rotation. There is some evidence that breeding pairs will relocate during a breeding season where crops have grown and rendered their early-season location unsuitable for later breeding attempts (Donald, et al., 2001).

Skylark chicks are fed almost exclusively on invertebrates, so breeding productivity is closely linked to the availability of insects. The 2023 'State of Nature Report' (Burns et al., 2023) identifies a substantial reduction in invertebrate populations, and these are greatest in regions with high cropland cover (Mancini et al., 2023).

Solar Farms and Skylarks

A study by Fox (2022), published in CIEEM's In Practice journal provided a succinct appraisal of the known and assumed impacts of solar farms on Skylarks, and included a prototype approach to mitigation. Fox noted that, while Skylarks are regularly observed on operational solar farms, nesting within the panel array has not been recorded. The shaded, fragmented, and enclosed environment beneath panels is thought to increase predation risk and reduce visibility, which are key factors influencing nest site selection. Consequently, most evidence supports the assumption that Skylarks avoid nesting directly within solar arrays and are therefore displaced from nesting in fields where panels are installed.

Nevertheless, solar farms are likely to offer foraging opportunities for breeding pairs in surrounding land, with observations of breeding birds using solar farm margins as a nursery confirmed in the UK (Montag et al., 2016; Secker, 2024). The conversion of arable land to managed grassland within a solar farm is likely to lead to increased invertebrate abundance and diversity, and therefore increased food resources for Skylarks, through both reduced chemical inputs and a more stable ground structure due to cessation of tilling activities.

Whilst there is no evidence of Skylarks nesting within solar arrays, they are consistently recorded foraging and displaying above or adjacent to solar installations. This indicates that solar farm sites can still offer foraging habitat for nearby pairs. Solar Energy UK's Solar Habitat 2025 report found that in 59% of surveyed solar farms, Skylarks were recorded exhibiting foraging behaviour within or immediately adjacent to panel arrays, providing evidence of the use of solar farms as a foraging resource. Secker (2024) noted six different Skylarks carrying food at two solar farms, all of which were observed during the late breeding season visit when Skylarks spent a higher percentage of their time foraging on solar farms. This indicates solar farms may supplement depleted food resources in the local landscape throughout the breeding season.

Legal and Policy Framework

This section briefly outlines the key legislative and policy context for consideration of effects on Skylarks in planning decisions in England. It is not intended to be a comprehensive statement of the legal or policy position for any particular planning process, which will require in all cases consideration of the relevant legislative context, together with planning policies relevant to that decision-making process. It describes matters that have general application across planning processes.

Under the Wildlife and Countryside Act 1981, it is an offence to (amongst other matters) intentionally kill, injure, or take any wild bird, or to damage or destroy the nest of any wild bird while it is in use or being built. Developers must therefore ensure that construction or operational activities avoid impacts on nesting birds.

Skylarks are listed by the Secretary of State under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as a species of principal importance for the conservation of biodiversity in England. That designation, together with relevant planning policy, require decision-makers to consider impacts on the species in planning and development control. They are also listed as a Red List species in Birds of Conservation Concern 5 (Stanbury et al., 2021).

The National Planning Policy Framework (NPPF)and National Policy Statements for Energy include national planning policy which addresses impacts on biodiversity and deliver measurable net gains.

Natural England's (NE) standing advice on wild birds (Gov.UK 2025) emphasises avoiding impacts where possible and implementing mitigation or compensation where necessary. Replacement habitat should ensure no net loss, maintain habitat connectivity, and support long-term populations. Whilst the NE standing advice sets out requirements, it is not straightforward to apply to the displacement of a ground-nesting species for which, in many locations, baseline populations are dependent on farming practice. That exercise is considered in more detail in Section 7.

Local Development Plans typically expand on national policy requirements by including specific policies for protecting priority species and habitats identified in emerging Local Nature Recovery Strategies through habitat and connectivity improvements.

Impact Assessment - Best Practice for Skylarks

Solar farms are often located on lowland agricultural land. Consequently, the potential for direct loss of nesting habitat is potentially significant and an application could be deemed to fail policy tests should development proceed without mitigation or compensation. Given the mobile nature of the species, and inter-annual population fluctuations due to crop rotation and farming practices, consideration of a 'development site-only' population should be treated with caution in impact assessment, especially where a development site is modest in scale, or numbers of Skylark pairs are low.

Whilst best practice ecological impact assessment should always be undertaken to determine site-level effects, a landscape-scale assessment of Skylark populations may be more ecologically meaningful, depending on the level of impact and scale of development.

Neither planning policy (at a national level) nor NE standing advice on wild birds requires a 'pair-for-pair' replacement within a proposed development site and nor is such a metric typically applied to other species of identical conservation status. Specific Skylark mitigation or compensation measures may not always be deemed necessary for small-scale developments when wider biodiversity impacts and enhancements are considered against policy. Impact assessments should seek to demonstrate that Skylark populations will be maintained at an appropriate geographical scale, through avoidance or proportionate and deliverable mitigation or compensation measures.

The cumulative effect of multiple small-scale developments has the potential to become ecologically meaningful, even for displacement of a low number of breeding territories. Planning decisions will typically require assessment of cumulative and in-combination impacts, and it is consequently appropriate to also consider populations at a broader geographical scale, especially where measurable population impacts are predicted.

When planning balance is considered, it is potentially relevant that solar farm developments typically achieve no net loss, and often a net gain, for Species of Principal Importance (Section 41, NERC Act 2006) priority farmland bird species when suitable conservation management measures are implemented. According to Copping et al., (2025), farmland bird species consistently found in greater abundance at solar farms managed for biodiversity ('mixed habitat') included a series of 'Red listed' Birds of Conservation Concern that are also designated as Species of Principal Importance i.e., with the same designated status as Skylark); for example Corn Bunting, Cuckoo, Linnet and Yellowhammer were all more common at solar farms than arable sites. So, whilst there may be displacement of Skylarks from breeding sites with the development of a solar farm, and which should be transparently presented in impact assessment, priority farmland bird species as a group can benefitted from well-managed solar farm developments. Copping et al., (2025) also notes that other 'Red-listed' and 'Amber-listed' farmland species found in greater abundance at mixed habitat solar farms comprised Greenfinch, Dunnock, Kestrel, Reed Bunting, Song Thrush, Stock Dove and Wren.

Determining Mitigation

Mitigation for a species that is widespread, sometimes locally abundant, and reliant on large, open farmland areas presents an inherent challenge for all developers of such sites. This applies not only to solar development, but also to other large-scale land-use changes such as housing and infrastructure projects where these are located on farmland.

The key to effective mitigation is understanding the species' ecological use of a site and assessing impacts at an appropriate geographic scale. Impacts should be evaluated against a meaningful population unit. The loss of a small number of territories may be locally noticeable but insignificant at district or regional scale, particularly in landscapes where crop rotation regularly alters habitat suitability.

Population data at a county level are available in some local bird reports and atlases; however, such data are rarely up-to-date and accurate information on county or district level populations cannot be consistently obtained. As examples, the 2019 publication 'the Birds of Shropshire' estimated at 14,000 pairs in 2011 (Smith, 2019), and the annual bird report for the same county classifies the species as 'Green-listed' (of least concern). Similar information is available for Norfolk, where the 2007 populations was estimated to be 25,000 to 30,000 breeding pairs (Taylor and Marchant, 2011). These figures are outdated but can provide some more localised context. At a very localised level, such as that within an individual planning application site, land management changes and particularly the rotation of crops are likely to be the main drivers in fluctuations of breeding pairs.

As outlined in Section 5, NE standing advice states that replacement habitat for displaced breeding birds should meet the following four criteria:

- No net loss of habitat
- Like-for-like replacement near to the original nest to provide a long-term home
- Alternative habitat that is better in quality or area than the lost habitat, and
- Maintained habitat connection to allow normal bird movement.

Each of these is considered in turn below with regards to Skylark ecology, mitigation opportunities and limitations.

No Net Loss of Habitat

Natural England's no-net-loss principle is central to biodiversity policy but requires careful interpretation for Skylarks and solar farms. It is unlikely that solar farms, like many other major development types located on farmland, can realistically achieve no net loss of breeding habitat. In most other forms of development, however, habitat loss is total and permanent, necessitating a stricter like-for-like replacement. In contrast, research shows that well-managed solar farms can continue to provide a foraging habitat for Skylarks where pairs are present in the surrounding area. In these circumstances, habitat within a solar farm is therefore partially retained, rather than lost entirely, so long as management is conservation focused.

Evidence suggests that breeding success in Skylarks is influenced more by resource quality (such as invertebrate abundance, vegetation height and structure) than by simple habitat area of arable cropland. For this reason, NE's guidance on creating alternative habitat that is better in quality or area than the lost habitat may provide a more appropriate framework for Skylark conservation in relation to solar developments.

Like-for-Like Replacement Near to the Original Nest

Skylarks are highly mobile and can relocate nesting areas annually as crops rotate. Given their short lifespan (approximately 2–3 years) and mobile nature, focusing mitigation strictly near to the original nest is neither practicable nor ecologically meaningful. Whilst on-site impacts should always be assessed, the over-arching aim should be to maintain favourable conservation status at a meaningful scale, which may be at district or county level. This means mitigation or compensation habitats, could potentially be delivered at some distance from a proposed development provided they contribute to sustaining district or county populations.

Alternative Habitat That Is Better in Quality or Area Than the Lost Habitat

Where pairs are present in the wider area, solar farms managed with permanent grassland are likely to provide a long-term foraging gain for Skylarks, albeit this is likely to be limited to the fringes of the solar farm development. The cessation of cultivation and agricultural-chemical inputs enables soil recovery and increased invertebrate diversity, improving food availability. Over an operational lifespan of 25–60 years, this produces a sustained ecological benefit, even if nesting habitat within the array is lost or reduced. Consequently, whilst solar farms displace breeding pairs from nesting within a development site, they can also provide an area of better-quality habitat for nearby retained pairs, potentially leading to increased breeding productivity. This can provide a reliable food resource for the operational lifetime of the solar farm, which is likely to be otherwise subject to changes in farming practices and market conditions.

Maintained Habitat Connection to Allow Normal Bird Movement

Skylarks exhibit high mobility, moving between foraging and nesting sites as conditions dictate. The open nature of solar farms, with grassland beneath and around panels, does not impede this movement. At ecologically meaningful scales, solar farms maintain habitat connectivity, allowing normal Skylark dispersal and foraging patterns across the wider agricultural landscape.

Approaches to Mitigation and Compensation

It has become common practice for solar farm applications to include Skylark mitigation, either in outline or detailed form. Typically, the scale of mitigation is based on the number of territories recorded during baseline surveys, with provision of nesting habitat for all or a proportion of displaced pairs. Mechanisms often involve either the delivery of 'Skylark Plots' on retained or nearby arable land, changes to les intensive management practices (typically spring sowing) or the creation of permanent meadow grassland with conservation-focused grazing. A combination of both is also commonly applied, and measures can be delivered within a development site (as mitigation) or outside the planning application boundary (as compensation), subject to appropriately secured planning controls.

Approach 1: Skylark Plots

Skylark Plots were first piloted at the RSPB's Hope Farm in 2001 and then rolled out as an agri-environment option (EF8 option in ELS) after a 3-year replicated trial proved that they were remarkably successful at boosting Skylark productivity in winter cereals. A Skylark Plot is a small undrilled or sprayed fallow patch created inside a field of winter cereal crop, designed to habitat for breeding Skylarks. However, Skylarks do not nest within the plots, rather the plots provide a valuable foraging area and enable the birds to access densely cropped fields from the ground (Fox, 2022). According to the UK government's Environmental Land Management Scheme (ELMS) action-sheet "AHW4: Skylark plots", the plots must be sited in large, open winter-cereal fields of 5 ha or more (Morris, et al., 2004). They should be located away from field edges, tramlines, poles or pylons (for example around 50 m or more from the boundary). Plots are most effective when each patch is at least 16 m^2 in area. Two plots per hectare in winter cereals is known to boost chick production; however there appears to be no published evidence with regards to numbers of plots per pair in a mitigation context, particularly when set against the 'no net loss of habitat' principle set out in policy and guidance.

Skylark Plots have been applied as mitigation for multiple solar developments, including both locally determined projects and Development Consent Orders (DCOs). These include projects in Essex (2024), Bedfordshire (2024) Lincolnshire (2023, 2024), South Cambridgeshire (2023) and North Yorkshire (2022), often at a nominal 2:1 ratio of plots to displaced territories. However, this ratio appears to be derived from government advice on agri-environment payments and therefore lacks an empirical foundation with regards to mitigation. Consequently, skylark plots can be valuable where feasible to adopt, but a cost-benefit assessment may inform where they can work best or where to deploy alternative and/or complementary measures that are beneficial to skylark conservation, such as managed meadow grassland, set-aside, and spring sown cereals. Moreover, it is questionable that Skylark plots can be aligned with other nature conservation objectives given the limited ecological value of most arable crops. Consequently, although plots can be valuable where feasible to adopt, their cost–benefit justification for long-term mitigation remains uncertain, and it is likely that conservation managed meadow grassland, set-aside, and spring sown cereals are more beneficial to Skylark conservation overall.

Approach 2: Meadow Grassland Creation and Alternative Cropping

The creation of meadow grassland outside the footprint of the panels is likely to be beneficial to Skylarks as it can provide a permanently (operational lifetime) reliable habitat; however, benefits will only be realised if the meadow supports a diverse sward and is managed following conservation principles. Where this can be achieved, pairs which nest within permanent grassland are likely to consistently have a higher number of breeding attempts than those in winter sown crops, and therefore potentially raise more chicks. Permanent meadow creation therefore provides stable, long-term conditions and supports increased invertebrate mass and a stable foraging resource. Where permanent meadow cannot be implemented and managed for Skylarks, spring-sown cereals and areas of set-aside offer suitable alternatives which are likely to boost breeding productivity levels above intensive arable land.
While it may not produce a quantified one-to-one replacement of territories, meadow creation, spring-sown cereal and set-aside align with accepted mitigation principles for other priority species (e.g., Linnet, Yellowhammer, Hedgehog and Brown Hare).

Published Mitigation Frameworks

Fox (2022)
Fox proposed a prototype mitigation strategy specifically for solar developments, quantifying breeding territories within and around sites to calculate compensatory land requirements. The method prescribes management actions such as Skylark Plots, uncultivated margins (for foraging), and low-intensity set-aside. Fox does not argue for mitigation of all breeding pairs, rather suggests that the user determines a relative percentage of breeding pairs for which mitigation may be considered. What degree of mitigation is used is up to the ecologist and the developer to judge. The Fox framework has informed several planning submissions in Lincolnshire and Norfolk (2022–2024), though published monitoring data are limited.

Arventus 'Skylark Metric' (2025)
This online metric standardises the calculation of Skylark impacts and mitigation benefits, aiming to provide transparency for planners and developers. It has been piloted on projects across East Anglia and the South-west (2024–2025). RSPB and Natural England have had sight of the metric and have thus far raised no significant concerns, although the approach is not yet peer-reviewed. It relies on cropping data and a combination of territory density by habitat type, derived from research and survey data where available and so builds on the approach set out in the Fox paper. It aims to quantify the increased carrying capacity (through increased breeding success/productivity) of birds in adjacent fields once the land within solar farms moves from the baseline habitat (often arable) to high quality grassland; the metric terms this the 'foraging uplift'. The metric also allows for 'off-site' mitigation land to be brought into the calculation, as needed. The metric calculates the potential displacement/loss of individuals and identifies where this falls below the uplift provided by any proposed mitigation. However, the metric does not specify what an acceptable displacement/loss of individuals may be. This should be determined on a site by site basis in consultation with the appropriate determining body.

Wider Ecological Benefits versus Losses

New ground-mounted solar development will usually involve changes to local habitat structures and land, albeit less so than most other forms of development and solar farms typically provide substantive habitat improvements. Whilst changes of habitat can lead to the displacement of ground-nesting birds, it simultaneously creates long-term opportunities for biodiversity enhancement when designed and managed sensitively. Planning decision makers should consider both the ecological impacts and the ecological benefits of a solar farm development.

Ecological Change and Habitat Function

The conversion of intensively managed arable land to permanent grassland under solar farm operation significantly reduces disturbance, chemical inputs, and soil erosion. This shift in land management supports increases in soil health, vegetation diversity, and invertebrate abundance, which together enhance ecosystem function. These outcomes contribute to the recovery of a wide range of declining farmland birds and other species.

Balancing Losses and Gains

Decision-makers should recognise that the effects of solar developments on Skylarks are not absolute habitat losses, but rather they can provide continued use for foraging by nearby pairs where present. While nesting will cease within land area used for the solar array itself, foraging and territorial behaviour frequently continues, at least within the margins of the development footprint.

This displacement of Skylarks and other species contrasts with permanent habitat losses associated with most built development types, where land ceases to function as a habitat of conservation value altogether. When combined with appropriate habitat management, solar farms are capable of maintaining, and in many cases improving, local overall ecological integrity for a wide range of species of conservation value.

Policy Compliance and Natural England Standing Advice

There is a no express legal or policy requirement for a pair-for-pair or like-for-like replacement of individual members of a species population through mitigation or compensation measures. Even in the case of Great Crested Newts or bats, which are protected by Annex 1 of the Habitats Directive and therefore given the highest level of international legal protection, there is no obligation for individual animal-for-animal replacement. Should this approach be applied to all species of Principal Importance, which includes numerous widespread birds and other animals, including Hedgehog, Brown Hares and Common Toads, it would be prohibitive to most forms of development. A like-for-like replacement of individuals is not an approach applied to other directly comparable species and other forms of development. As such, whilst it is appropriate for planning decisions to fully consider population impacts based on a site-level population, it does not follow that mitigation must be delivered on a pair-for-pair basis to ensure policy compliance.

Proportionate Decision-Making

Planning decisions relating to breeding bird impacts from solar farm developments should be proportionate, consistent, and aligned with the wider policy framework. Impacts on species of comparable legal and policy status should be treated consistently across different forms of development. Refusal of a solar farm development solely based on residual breeding Skylark displacement risks presents a narrow and disproportionate interpretation of policy, particularly where an application will lead to positive impacts on other species of identical status.

Proportionality should also reflect the characteristics of solar development itself. Ground-mounted solar farms are temporary, and reversible land uses that retain the underlying soil resource and generally involve limited ground disturbance. Over their operational life they can support significant ecological enhancement, particularly where land is transitioned from intensive agricultural management to low-input grassland and habitat mosaics. When considered alongside their role in climate change mitigation, solar farms can therefore deliver wider environmental co-benefits, including improved soil condition, pollinator habitat provision, and reductions in agrochemical inputs; all of which contribute to the objectives of the UK Government's Nature Recovery Green Paper (DEFRA, 2022). Decision-making should recognise both the limited and manageable nature of ecological effects and the potential for solar schemes to contribute positively to broader biodiversity and nature recovery objectives.

Recommended Considerations for Decision Makers

The relationship between solar farm development and Skylark conservation requires a proportionate, evidence-led approach that balances biodiversity considerations with our obligations on renewable energy targets for 2035 and the urgent need to decarbonise the UK's energy under legally binding net zero commitments. Decision-makers should assess each application within this broader context, ensuring compliance with national and local policy while recognising the ecological opportunities associated with well-managed solar farms. Given the number of variables that are possible with each individual project, it is critical to ensure a suitably qualified ornithologist has the relevant information to make a professional judgement on the level of mitigation and compensation required for a development, based on the local circumstances.

Robust and Relevant Baseline Information

To determine the value of a proposed development site for Skylarks and inform mitigation requirements, breeding bird surveys should be undertaken and crop rotation data obtained to enable the use of a metric approach. Breeding bird surveys of the development site are likely to be necessary, and these should ideally also cover proposed mitigation areas where practical. In some cases, access to surrounding land is not possible, or candidate mitigation areas may not have been identified or agreed at the point of survey. Where this is the case, cropping data and published research on average territory densities can be used to assist in identifying the Skylark carrying capacity of candidate mitigation areas.

Apply Consistency and Proportionality in Policy Tests

The effect of development on Skylarks should be considered consistently with those for other species of Principal Importance. Decision-makers should recognise that policy does not require the absolute avoidance of all individual-level impacts where these are recognised during impact assessment. Mitigation can be partial (in terms of numbers of individuals or pairs) without failing wider policy tests where wider biodiversity benefits are provided. In practical terms, this means that small-scale, localised displacements within a solar array do not automatically require mitigation, especially where broader population-level outcomes are maintained.

Interpret Natural England's Standing Advice Flexibly and Consistently

Natural England's standing advice on wild birds sets out the mitigation hierarchy of avoidance, reduction, and compensation. For all birds, this hierarchy should be interpreted considering the available evidence:

- Avoidance: Prioritise site selection to exclude areas of high biodiversity value, such as natural grasslands.
- Reduction: Incorporate design features such as open grassland areas, wildflower strips, and low-intensity management under and between solar arrays.
- Mitigation and Compensation: Deliver habitat creation or enhancement, either within or beyond the site boundary, that demonstrably supports Skylark foraging and breeding productivity.

Secure Long-Term Management and Monitoring

Where mitigation or compensation measures are required, LPAs should ensure that management commitments are secured for the operational life of the solar farm through an appropriate legally binding mechanism. Monitoring should be proportionate to project scale but sufficient to evidence continued compliance with planning requirements and any relevant biodiversity gain objectives.

Recognise Wider Ecological Benefits in Planning Balance Considerations

Decision-makers should evaluate Skylark impacts in the context of wider biodiversity and ecosystem service gains. Well-managed solar farms deliver:

- Long-term reductions in chemical inputs and soil degradation.
- Habitat creation for pollinators, small mammals, and other farmland birds, including many species with identical designated status as Skylarks.
- Landscape-scale enhancement of ecological networks, and
- Measurable contributions to Biodiversity Net Gain and Nature Recovery objectives.

Refusal of proposals based on breeding Skylark displacement alone is potentially disproportionate and inconsistent with the legal and policy framework, including Natural England's standing advice. Whilst it is fully recognised that Skylark populations must be maintained and recovered, effects must be balanced against the broader biodiversity enhancements delivered by solar farms, which are now demonstrated through independent research and recognised by conservation organisations.

Integrate Skylark Considerations with BNG and Nature Recovery Frameworks

Skylark mitigation for a solar farm can be designed as an integral part of a project's BNG commitments by embedding targeted habitat features that support breeding and foraging into the landscape design and long-term management plans. For example, establishing meadow managed specifically for conservation can support Skylark nesting and feeding, depending on scale and location. Beyond individual site obligations, aligning Skylark mitigation with emerging Local Nature Recovery Strategies (LNRSs) and wider nature recovery frameworks strengthens both local ecosystem resilience and strategic conservation priorities. In England, LNRSs map habitats and set local biodiversity priorities, and they are increasingly embedded in planning policy and the BNG system so that habitat creation in priority locations can attract enhanced biodiversity value. By situating solar farm habitat enhancements (e.g., grassland or wildflower areas beneficial to Skylarks and associated species) within or adjacent to LNRS-identified opportunities, projects can contribute to coherent landscape-scale nature recovery, support delivery of local biodiversity priorities, and ensure compliance with formal policy approaches under national and local environmental frameworks. This supports the policy emphasis on strategic-scale nature recovery and ensures that solar developments contribute meaningfully to local biodiversity priorities.

Conclusions

Solar farm development represents a form of land use that can deliver meaningful biodiversity enhancements when appropriately located, designed and managed. Evidence presented in this Topic Paper indicates that, although Skylarks do not nest within solar panel arrays, solar farms can continue to function as part of the wider agricultural habitat used by breeding pairs, albeit restricted to the margins of a panelled area. The transition from intensively managed arable land to permanent grassland beneath and around solar infrastructure can improve habitat structure, increase invertebrate abundance, and provide reliable foraging resources for breeding birds in surrounding areas; however, this is strongly dependent on habitat management within the solar farm, and the availability of nearby nesting locations.

National planning policy does not require the elimination of all localised ecological effects, nor does it mandate the direct replacement of individual breeding pairs. Instead, the policy framework emphasises proportionate mitigation. In this context, the displacement of Skylarks from nesting within solar arrays should be considered alongside the wider ecological outcomes associated with well-managed solar farm sites. Overall, solar developments should seek to safeguard and enhance the natural environment, and to identify opportunities for the conservation, enhancement and recovery of habitats and species of Principal Importance.

Whilst local level impacts must be fully assessed, mitigation measures must be proportionate and reasonable, so should focus on improving habitat quality and breeding productivity at an appropriate scale, rather than attempting to mitigate for all displaced territories. Conservation-managed grassland, set-aside, and low-intensity cropping regimes are likely to provide durable Skylark over a prolonged period. Where evidence is not yet available, an appropriate level of monitoring should be in place to develop a more robust evidence base going forwards.

Solar farms have the potential to contribute positively to farmland biodiversity. Decision-makers should therefore apply an evidence-led and proportionate approach that recognises both the manageable nature of Skylark impacts and the opportunities solar developments provide for long-term ecological enhancement within modern intensive agricultural landscapes.

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