

Light Valley Solar

Environmental Statement Volume 1

Chapter 12: Ornithology

Document Reference: EN0110012/APP/LVS/06.01.12

February 2026

Planning Inspectorate Reference: EN0110012
APFP Regulation 5(2)(g)



Light Valley
Solar

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and Procedure) Regulations 2009

Light Valley Solar

DCO Submission

Chapter 12: Ornithology

Regulation Reference	APFP Regulation 5(2)(g)
Planning Inspectorate Case Reference	EN0110012
Application Document Reference	EN0110012/APP/LVS/06.01.12
Author	Light Valley Solar Limited

Version	Date	Status of Version
1.0	February 2026	DCO Submission

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12 Ornithology

12.1 Introduction

- 12.1.1 This chapter presents the findings of the Environment Impact Assessment (EIA) of the likely significant effects arising from the construction, operation (including maintenance) and decommissioning of the Proposed Development on Ornithology. It should be noted that other biodiversity matters are addressed in Chapter 6: Biodiversity (ES Volume 1) [**EN0110012/APP/LVS/06.01.06**].
- 12.1.2 A full description of the Proposed Development is provided in Chapter 2: the Proposed Development (ES Volume 1) [**EN0110012/APP/LVS/06.01.02**].
- 12.1.3 This chapter sets out the relevant legislation, policy, standards and guidance applied to the assessment process; consultation undertaken to inform the assessment; assessment methodology; the relevant baseline conditions upon which the assessment is based; embedded mitigation considered in place before the assessment is undertaken; the likely significant effects that may arise as a result of the Proposed Development considering embedded mitigation; further mitigation requirements to reduce or remove any identified likely significant effects; the remaining residual effects following further mitigation; and any monitoring required for remaining significant effects.
- 12.1.4 Understanding intra-project effects between topics is an integral part of the Environment Impact Assessment (EIA) process and have been considered within this chapter. The conclusions of the following topic assessments are considered relevant to the receptors considered within this assessment, and as such are taken into account in the overall assessment for ornithology:
- 1) Chapter 6: Biodiversity (ES Volume 1) [**EN0110012/APP/LVS/06.01.06**];
 - 2) Chapter 11: Noise and Vibration (ES Volume 1) [**EN0110012/APP/LVS/06.01.11**];
 - 3) Chapter 14: Traffic and Movement (ES Volume 1) [**EN0110012/APP/LVS/06.01.14**];
 - 4) Chapter 15: Water Resources and Flood Risk (ES Volume 1) [**EN0110012/APP/LVS/06.01.15**]; and
 - 5) Chapter 16: Other Environmental Matters (ES Volume 1) [**EN0110012/APP/LVS/06.01.16**] - in particular Appendix 16.1: Construction Dust Assessment (ES Volume 3) [**EN0110012/APP/LVS/06.03.16.01**].
- 12.1.5 This chapter is supported by the following figures (ES Volume 2):
- 1) Figure 6.1: Statutory Designated Sites - International Designations 20 km [**EN0110012/APP/LVS/06.02.06.01**];
 - 2) Figure 6.2: Statutory Designated Sites - National Designations 2 km [**EN0110012/APP/LVS/06.02.06.02**];

- 3) Figure 6.3: SSSI Impact Risk Zones 2 km
[EN0110012/APP/LVS/06.02.06.03];
- 4) Figure 12.1: Proposed Development Overview
[EN0110012/APP/LVS/06.02.12.01];
- 5) Figure 12.2: SSSI Impact Risk Zone – Lower Derwent Valley
[EN0110012/APP/LVS/06.02.12.02];
- 6) Figure 12.3: Ornithological Survey Areas
[EN0110012/APP/LVS/06.02.12.03] – note that the transects and Vantage Points shown on this figure are associated with the non-breeding bird surveys; and
- 7) Figure 12.4 Predicted Construction Noise Levels at SDS 1
[EN0110012/LVS/APP06.02.12.04].

12.1.6 This chapter is supported by the following appendices (ES Volume 3):

- 1) Appendix 12.1: Breeding Bird Survey Report- Solar Development Sites 1-5
[EN0110012/APP/LVS/06.03.12.01];
- 2) Appendix 12.2: Non-breeding Bird Survey Report
[EN0110012/APP/LVS/06.03.12.02]; and
- 3) Appendix 12.3: Breeding Bird Survey Report - Solar Development Sites 6-8
[EN0110012/APP/LVS/06.03.12.03].

12.1.7 This chapter is also supported by the following supplementary documents and management plans:

- 1) Shadow Habitats Regulations Assessment (sHRA)
[EN0110012/APP/LVS/05.11];
- 2) Outline Construction Environmental Management Plan (oCEMP)
[EN0110012/APP/LVS/07.02];
- 3) Outline Operational Environmental Management Plan (oOEMP)
[EN0110012/APP/LVS/07.03];
- 4) Outline Decommissioning Environmental Management Plan (oDEMP)
[EN0110012/APP/LVS/07.04];
- 5) Outline Landscape and Environmental Management Plan (oLEMP)
[EN0110012/APP/LVS/07.05];
- 6) Outline Battery Safety Management Plan (oBSMP)
[EN0110012/APP/LVS/07.06];
- 7) Outline Construction Traffic Management Plan (oCTMP)
[EN0110012/APP/LVS/07.12]; and
- 8) Outline Bird Mitigation and Management Plan (oBMAMP)
[EN0110012/APP/LVS/07.19].

12.2 Scope of the assessment

- 12.2.1 The EIA Scoping Report (see Appendix 1.1 (ES Volume 3) **[EN0110012/APP/LVS/06.03.01.01]**) set out the proposed scope for the assessment of Ornithology. The scope of the Ornithology assessment is summarised in Table 12-1 below.
- 12.2.2 Since the EIA Scoping Opinion dated 19 December 2024 (Appendix 1.2: EIA Scoping Opinion (ES Volume 3) **[EN0110012/APP/LVS/06.03.01.02]**), the following features have been scoped out through ongoing consultation and agreement with Natural England, which is also detailed in Table 12-6:
- 1) Fairburn and Newton Ings Site of Special Scientific Interest (SSSI);
 - 2) Skipwith Common SSSI; and
 - 3) Sites Important for Nature Conservation (SINCs).

Table 12-1 Ornithology assessment scope extracted from the EIA Scoping Report (PINS ref: EN0110012)

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
Lower Derwent Valley Special Protection Area (SPA) & Ramsar site (2.8 km E of Solar Development Site 1) including the various underlying SSSIs: Derwent Ings SSSI 2.8 km E of Solar Development Site 1 Melbourne and Thorn Ings SSSI 6.5 km E of Solar Development Site 1 Brighton Meadows SSSI 7.5 km E of the Cable Route Corridor Options Area ¹ Newton Mask SSSI 7.7 km NE of Solar Development Site 1	Spring (April–May, inclusive), autumn (August–September, inclusive) and wintering (October 2024–March 2025) bird surveys were completed within Solar Development Sites 1–4 and 6–8. Within the Cable Route Corridor, spring (April–May 2025, inclusive) and autumn (September–October 2025, inclusive) passage surveys have been completed. Note that surveys of the Cable Route Corridor were completed in all areas which fall within the SSSI Impact Risk Zone.	Construction	Scoped in	Assessment of the potential impacts on the qualifying features of the SPA and Ramsar site as a result of the Proposed Development included in Environmental Statement (ES) and the sHRA [EN0110012/APP/LVS/05.11].
		Operation	Scoped in	
		Decommissioning	Scoped in	
Humber Estuary SPA & Ramsar site (15 km E of the Cable Route Corridor Options Area)	Spring (April–May, inclusive), autumn (August–September, inclusive) and wintering (October 2024–March 2025) bird surveys were completed within Solar Development Sites 1–4 and 6–8.	Construction	Scoped in	Assessment of the potential impacts on the qualifying features of the SPA and Ramsar site as a result of the Proposed Development included in Environmental Statement (ES).
		Operation	Scoped in	
		Decommissioning	Scoped in	

¹ Note that the Cable Route Corridor options area refers to a 300 m-wide zone within which the final cable alignment will be confirmed and located.

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
	<p>Within the Cable Route Corridor, spring (April–May 2025, inclusive) and autumn (September–October 2025, inclusive) passage surveys have been completed.</p> <p>Note that surveys of the Cable Route Corridor were completed in all areas which fall within the SSSI Impact Risk Zone.</p>			
Thorne & Hatfield SPA (18 km SE of Solar Development Site 4)	Desk based review	<p>Construction</p> <p>Operation</p> <p>Decommissioning</p>	<p>Scoped out</p> <p>Scoped out</p> <p>Scoped out</p>	<p>Agreement through consultation with statutory consultees to scope out qualifying features of the SPA due to lack of impact pathway identified at the PEIR stage. However, as part of the scoping comments from PINS, this has been included for completeness, See Ornithology EIA Scoping Opinion comments in Table 12-5.</p> <p>The SAC is assessed within Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06].</p>
Skipwith Common SSSI (630 m East of the Cable Route Corridor Options Area)	Desk based review	<p>Construction</p> <p>Operation</p> <p>Decommissioning</p>	<p>Scoped out</p> <p>Scoped out</p> <p>Scoped out</p>	<p>Statutory consultees agreed with the PEIR conclusion that there will not be significant impacts on birds associated with the designated site [S42 ID 205]. However, as part of the scoping comments from PINS, this has been included for completeness.</p>

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
Fairburn and Newton Ings SSSI (1.9 km W of the Cable Route Corridor Options Area)	Desk based review	Construction	Scoped out	Natural England and the Royal Society for Protection for Birds (RSPB) agreed with the PEIR conclusion that there will not be significant impacts on birds associated with the designated site [S42 ID 205]. However, as part of the scoping comments from PINS, this has been included within the ES for completeness.
		Operation	Scoped out	
		Decommissioning	Scoped out	
Sites Important for Nature Conservation (SINCs) within the Cable Route Corridor Options Area: Small Lakes, Riccall Ings Ouse Bank, Westfield, Riccall Ings Common Wood Mulberry Farm Ponds Bywater Wood Far Carr Meadow, Wistow Deleted SINC (same boundary as Burr Closes SSSI)	Desk based review	Construction	Scoped out	Non-statutory designated sites (SINCs) identified within the wider Study Area were reviewed. As reported at PEIR stage, these sites are located beyond the functional range of ornithological receptors associated with the Proposed Development and remain scoped out of the assessment.
		Operation	Scoped out	
		Decommissioning	Scoped out	
SINCs adjacent to the Cable Route Corridor Options Area (up to 350 m): Hollicarrs Wood Nightingale Wood	Desk based review	Construction	Scoped out	The EIA Scoping Report identified SINCs for their general ecological value, supporting a range of flora and fauna, but made no specific reference to ornithological interest. Baseline
		Operation	Scoped out	
		Decommissioning	Scoped out	

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
Barber Rein Moss Hagg				information presented in Section 12.8 demonstrates that this conclusion remains valid. The SINC's lie outside the Zone of Influence of the Proposed Development with no functional connectivity; therefore, they are retained for contextual baseline only and not subject to further detailed assessment
SINC's adjacent to the Solar Development Sites (up to 350 m): Borrow Pit East of Birkin 10 m south of Solar Development Site 4 Gashouse Plantation 125 m west of Solar Development Site 1 Willow Scrub, Birkin Holme (deleted SINC) adjacent east of Solar Development Site 4 Swamp on Selby Dam Near Low Rest Park Farm (deleted SINC) 235 m east of Solar Development Site 8	Desk based review	Construction	Scoped out	The EIA Scoping Report identified SINC's for their general ecological value, supporting a range of flora and fauna, but made no specific reference to ornithological interest. Baseline information presented in Section 12.8 demonstrates that this conclusion remains valid. The SINC's lie outside the Zone of Influence of the Proposed Development with no functional connectivity; therefore, they are retained for contextual baseline only and not subject to further detailed assessment. They are fully assessed in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06]
		Operation	Scoped out	
		Decommissioning	Scoped out	
All other SINC's (17 within 2 km of Solar Development)	Desk based review	Construction	Scoped out	The EIA Scoping Report identified SINC's for their general ecological value,

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
Sites and 13 within 2 km of the Cable Route Corridor Options Area)		Operation	Scoped out	supporting a range of flora and fauna, but made no specific reference to ornithological interest. Baseline information presented in Section 12.8 of the ES demonstrates that this conclusion remains valid. The SINCs lie outside the Zone of Influence of the Proposed Development with no functional connectivity; therefore, they are retained for contextual baseline only and not subject to further detailed assessment. They are fully assessed in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06].
		Decommissioning	Scoped out	
Non-breeding birds	Spring (April-May, inclusive), autumn (August-September, inclusive) and wintering (October 2024-March 2025) bird surveys were completed within Solar Development Sites 10-4 and 6-8. Within the Cable Route Corridor, spring (April-May 2025, inclusive) and autumn (September-October 2025, inclusive) passage surveys have been completed	Construction	Scoped in	Loss of habitat / fragmentation of habitat. Disturbance, killing / injury.
		Operation	Scoped in	
		Decommissioning	Scoped in	
Breeding Birds (ground nesting species)	Surveys completed for the Solar Development Sites 1-4 during	Construction	Scoped in	Loss of habitat / temporary fragmentation of habitat.
		Operation	Scoped in	

Feature	Scope of Surveys	Phase	Scoped in / out	Summary comments (including justification and any assumptions relied upon for scoping out aspects)
	2024. It is however, important to note that Solar Development Site 5 was excluded from the Order Limits as part of the design evolution, during spring 2025. Surveys for Solar Development Sites 6-8 were completed at the end of spring/summer 2025. Suitable breeding bird habitat features were mapped across the Cable Route Corridor.	Decommissioning	Scoped in	Risk of disturbance, killing / injury.
Wild Bird Habitats (Grassland, arable land and riparian habitat)	Desk based review	Construction	Scoped in	Potential temporary and long-term* loss of breeding bird habitat / fragmentation / disturbance
		Operation	Scoped in	
		Decommissioning	Scoped in	

*Long-term is considered the maximum operational lifespan of the Proposed Development, which is anticipated to be up to 60 years. Short-term refers to the maximum time during the construction phase

Study Area

- 12.2.3 The Study Area is split into two broad areas, the Solar Development Sites 1-4 and 6-8 and the Cable Route Corridor, located as described in Chapter 2: The Proposed Development (ES Volume 1) **[EN0110012/APP/LVS/06.01.02]** and as shown on Figure 1.1: Site Location and Plan (ES Volume 2) **[EN0110012/APP/LVS/06.02.01.01]**.
- 12.2.4 The Study Area for ornithological surveys includes land within the Solar Development Sites 1-4 and 6-8, the Cable Route Corridor, Highway Improvement Areas (HIA) and an appropriate buffer zone around the Order Limits as set out below.
- 12.2.5 HIAs were not specifically targeted through non-breeding and breeding ornithological surveys, as they comprise hardstanding, verges and active road infrastructure that do not provide suitable habitat for breeding, foraging or roosting non-breeding birds, nor do they contribute to Functionally Linked Land (FLL) associated with designated sites. As such, these areas are not considered relevant to the non-breeding and breeding bird ornithological assessment. However, it is important to note that the buffers attached to the methods (Section 12.6), some areas that contain HIAs are captured indirectly as a result of the survey design, particularly those adjacent to the Solar Development Sites. HIA areas are presented in Figure 2.5: Avoidance Areas (ES Volume 2) **[EN110012/APP/LVS/06.02.02.05]**.
- 12.2.6 It should also be noted that Natural England has acknowledged that the connection works to National Grid Monk Fryston are temporary in nature. Natural England further confirmed within the DAS that only the Cable Route Corridor falling within the SSSI IRZ requires survey coverage. National Grid Monk Fryston lies well outside the SSSI IRZ. see Figure 12.2: SSSI Impact Risk Zone – Lower Derwent Valley (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.02]** for reference of the SSSI IRZ.
- 12.2.7 The boundaries and radii established for the ornithological Study Area align with commonly accepted industry practices and the distances that regulatory authorities typically expect to be considered when identifying potential impacts to ornithology beyond the Order Limits. This approach is based on the published guidelines and professional expertise as set out in Table 12-2 below, relevant legislation, policy, standards and guidance.
- 12.2.8 The Study Area includes all ornithological important features that may be directly or indirectly impacted by the Proposed Development. The size and scope of the Study Area varies depending on the specific ornithological feature at risk. The following has been applied from the boundaries of the Study Area:
- 1) Statutory designated international sites- 20 km radius (Figure 6.1: Statutory Designated Sites – International Designations 20 km (ES Volume 2) **[EN0110012/APP/LVS/06.02.06.01]**);

- 2) Statutory designated national sites- 2 km radius (Figure 6.2: Statutory Designated Sites – National Designations 2 km (ES Volume 2)) **[EN0110012/APP/LVS/06.02.06.02]**;
- 3) Non-breeding Bird surveys – outward to 300 m of the Order Limits (Figure 12.3: Ornithological Survey Areas (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.03]**) – Vantage Points and transects are also shown for completeness in Figure 12.3: Ornithological Survey Areas **[EN0110012/APP/LVS/06.02.12.03]**;
- 4) Breeding Bird surveys – outward to 50 m of the Order Limits (Figure 12.3: Ornithological Survey Areas (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.03]**); and
- 5) Breeding Bird Habitat Suitability Assessment; Schedule 1 (Figure 12.3: Ornithological Survey Areas (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.03]**); – outward to a minimum of 200 m of the Order Limits, transects are not shown for the Cable Route Corridor and Solar Development Sites.

12.2.9 The Study Areas for designated sites listed above have been informed by subsequent and ongoing consultation with North Yorkshire Council (NYC) and Natural England (NE), as detailed in Table 12-5.

12.3 Relevant legislation, policy, standards and guidance

12.3.1 The following section identifies the relevant legislation, planning policy, standards and guidelines which underpin the assessment methodology for Ornithology and have informed the assessment, including the identification of mitigation.

Legislation

12.3.2 The ornithological assessment for the Proposed Development must comply with a range of domestic legislation and international agreements designed to protect bird species and their habitats. These laws and conventions underpin the need to assess potential impacts, avoid significant adverse effects, and implement appropriate mitigation measures where required. Together, these frameworks form the legal and policy basis for undertaking the ornithological assessment and ensuring that any impacts from the development are fully understood, assessed, and appropriately mitigated.

Table 12-2 Ornithology - Legislation

Legislation	Relevance to assessment
The Wildlife and Countryside Act (WCA), 1981 (as amended) (Ref 1)	In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb

Legislation	Relevance to assessment
	the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.
The Conservation of Habitats and Species Regulations 2017 (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations, 2019) (Ref 2)	The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species and habitats covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2017 (as amended).
The Environment Act, 2021 (Ref 3)	The Environment Act (November 2021) makes it mandatory for the vast majority of development projects to deliver a 10% biodiversity net gain (BNG). Further secondary legislation is required to apply the BNG requirement to Nationally Significant Infrastructure Projects (NSIP) developments. Previous consultation has set the expectation that a BNG requirement will be imposed on NSIP projects from November 2025, with the level of the requirement detailed within a BNG Statement(s) (subject to prior publication) but presently expected to be set at the same as for other developments, required to achieve a 10% net gain. A BNG Report [EN0110012/APP/LVS/05.09] has been prepared for the Proposed Development to describe the expected biodiversity change post development.
Natural Environment and Rural Communities (NERC) Act (2006) (Ref 5)	Provides a list of habitats and species of principal importance for the conservation of biodiversity. Section 41 requires public authorities to consider the biodiversity objective of the conservation and enhancement of biodiversity as part of carrying out their functions.
The Countryside and Rights of Way (CRoW) Act, 2000 (Ref 6)	The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.
International Agreements	
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) (Ref 7)	An international legal instrument in the field of nature conservation, the Bern Convention aims to ensure conservation and protection of wild plant and animal species and their natural habitats, particularly those whose conservation requires cooperation between several countries. It underpins the designation of European-level protected areas such as Special Protection Areas (SPAs) which are designated for ornithology interest.
Convention on the Conservation of Migratory Species of Wild	This convention provides a global platform for the conservation and sustainable use of migratory animals and

Legislation	Relevance to assessment
Animals (Bonn Convention) (Ref 8)	their habitats. It encourages range states to adopt coordinated conservation measures. Many bird species relevant to the UK are listed under its appendices.
Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) (Ref 9)	A regional agreement under the Bonn Convention that focuses on the conservation of migratory waterbirds and their habitats across Africa and Eurasia. AEWA covers 255 species of birds ecologically dependent on wetlands for at least part of their annual cycle and promotes coordinated conservation actions across international borders.

Policy

- 12.3.3 The ornithology assessment is guided not only by statutory obligations but also by national and local policy that sets the expectations for environmental protection, enhancement, and BNG in relation to energy infrastructure.

Table 12-3 Ornithology - Policy

Policy	Relevance to assessment
Overarching National Policy Statement for Energy (EN-1), 2025 (Ref 10)	<p>The national policy sets a broad approach to biodiversity and geological conservation, particularly in Section 5.4. It outlines the assessment of impacts and the need for mitigation where necessary.</p> <p>Paragraph 3.3.63 highlights that, subject to legal requirements, the urgent need for Critical National Priority (CNP) infrastructure generally outweighs residual impacts not addressed through mitigation.</p> <p>Paragraph 5.4.18 requires Environmental Statements (ES) to clearly present effects on designated sites, protected species, and priority habitats, including those beyond England.</p> <p>Paragraphs 5.4.36–5.4.29 outline the expectation for appropriate mitigation measures to minimise ecological impacts.</p> <p>Paragraphs 5.4.42–5.4.44 state that nationally significant low-carbon energy infrastructure may deliver net benefits for biodiversity and geological conservation that can outweigh harm where demonstrated; however, development should follow the mitigation hierarchy by avoiding harm where practicable, mitigating impacts, and using compensation only as a last resort, with any remaining significant biodiversity harm given substantial weight in decision-making.</p>

Policy	Relevance to assessment
<p>National Policy Statement for Renewable Energy Infrastructure (EN-3), 2025 (Ref 11)</p>	<p>Section 2.10 sets out policy specific to renewable energy, including solar developments.</p> <p>Paragraphs 2.10. 675–2.10.84 focus on ecological and environmental considerations for solar farms, emphasising the need for robust ecological assessments, minimisation of adverse impacts, and the enhancement of biodiversity.</p> <p>The guidance supports environmentally sustainable development throughout the planning process.</p>
<p>National Policy Statement for Electricity Networks Infrastructure (EN-5), 2025 (Ref 12)</p>	<p>NPS EN-5 sets out policy for energy transmission infrastructure, covering routing, undergrounding, and the need for good design in line with the Horlock Rules (paragraphs 2.9.18–2.9.19).</p> <p>It also highlights potential risks to birds from electricity networks and the need to consider FLL (paragraphs 2.9.3–2.9.6).</p>
<p>National Planning Policy Framework (NPPF), 2024 (Ref 13)</p>	<p>The National Planning Policy Framework (NPPF, 2024) sets out national planning policies for England.</p> <p>Paragraph 11 introduces a presumption in favour of sustainable development.</p> <p>Section 11 (paragraph 124c) encourages net environmental gains, including habitat creation and multi-functional land use.</p> <p>Section 15 (paragraphs 180–194) focuses on the conservation and enhancement of the natural environment: Paragraph 180 calls for protection and enhancement of biodiversity, valued landscapes, natural capital, and ecological networks.</p> <p>Paragraph 181 promotes a strategic, landscape-scale approach to habitat and green infrastructure planning.</p> <p>Paragraph 185 requires plans to safeguard wildlife-rich habitats, ecological networks, and pursue measurable net gains for biodiversity.</p> <p>Paragraph 186 outlines that planning permission should be refused where significant harm to biodiversity cannot be avoided, mitigated, or compensated. It also sets out protections for SSSIs, irreplaceable habitats, and encourages biodiversity-led development.</p> <p>Paragraph 187 confirms that potential SPAs, Special Areas of Conservation sites (SAC), Ramsar sites, and compensatory habitat sites receive equivalent protection to designated habitat sites.</p>

Policy	Relevance to assessment
	Paragraph 188 notes that the presumption in favour of sustainable development does not apply where likely significant effects on a habitats site are identified unless an Appropriate Assessment concludes no adverse effect on site integrity.
Selby District Core Strategy Local Plan, adopted 2013 (Ref 14)	Policy SP18 sets out local priorities for protecting and enhancing the environment, including biodiversity, geodiversity, and natural habitats.
Selby District Local Plan, adopted 2005 (Ref 15)	The Selby District Local Plan 2005 is a key planning document that outlines the strategic vision for development and land use within the former Selby District. Key saved polices include (relevant to this chapter): ENV9 Sites of Importance for Nature Conservation
The Selby Biodiversity Action Plan, 2004 (Ref 16)	The Selby District Biodiversity Action Plan (2004) is a strategic framework that set out the former Selby District Council's approach to biodiversity conservation and enhancement across the district.
Environmental Improvement Plan (EIP), 2023 (Ref 17)	The EIP 2023 is the government's flagship plan for nature recovery. It acknowledges declines in farmland and woodland bird populations and sets a national target to halt species decline by 2030. It promotes biodiversity net gain, Local Nature Recovery Strategies, and habitat restoration, with a particular focus on priority species and ecosystems.

Standards and guidance

- 12.3.4 A range of technical standards and guidance documents inform the ornithological assessment methodology, ensuring consistency, robustness, and alignment with current best practice for nationally significant infrastructure projects (NSIPs) which are detailed in Table 12-4 below.

Table 12-4 Ornithology – Standards and Guidance

Standards and guidance	Relevance to assessment
Ecological Impact Assessment Guidelines for Preliminary Ecological Appraisal, (Ref 18) Guidelines for Ecological Impact Assessment in the UK and Ireland (Ref 19)	The guidelines provide a structured approach for identifying and assessing potential ecological impacts of development projects in the United Kingdom.
Habitat Regulations Habitats Regulations Assessments: Protecting a European site (Ref 20) Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments (2025) (Ref 21)	Provides guidance on how to conduct Habitats Regulations Assessments (HRAs) for nationally significant infrastructure projects in the United Kingdom.

Standards and guidance	Relevance to assessment
<p>Air Quality</p> <p>A guide to the assessment of air quality impacts on designated nature conservation sites (Ref 22)</p> <p>Advisory Note: Ecological Assessment of Air Quality Impacts (Ref 23)</p>	<p>Provides guidance on how to assess the potential impacts of air pollution on designated nature conservation sites and ecosystems.</p>
<p>Birds</p> <p>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 (Ref 24)</p> <p>Bird census techniques (Ref 25)</p> <p>Bird Monitoring Methods: A Manual of Techniques for UK Key Species. (Ref 26)</p> <p>Bird Survey Guidelines for assessing ecological impacts (Ref 27)</p>	<p>These resources provide information on bird populations, census techniques, and survey methodologies in the United Kingdom. They underpin the survey design, species interpretation, and impact thresholds used in this assessment.</p>

12.4 Stakeholder engagement and consultation

EIA Scoping Opinion

- 12.4.1 An EIA Scoping Report (Appendix 1.1: EIA Scoping Report (ES Volume 3) [EN0110012/APP/LVS/06.03.01.01]) was submitted to the Planning Inspectorate (PINS) on 11 November 2024 and an EIA Scoping Opinion was received on 19 December 2024 (Appendix 1.2: EIA Scoping Opinion (ES Volume 3) [EN0110012/APP/LVS/06.03.01.02]).
- 12.4.2 Only EIA Scoping Opinion comments relevant to ornithology are summarised below. Designated sites not related to ornithology (unless stated otherwise), such as SACs, including Lower Derwent Valley SAC, River Derwent SAC, Skipwith Common SAC, Thorne Moor SAC, Strensall Common SAC and Hatfield Moor SAC are therefore scoped out of this chapter but are addressed in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06].
- 12.4.3 A summary of key comments and how these have been addressed is presented in Table 12-5 below:

Table 12-5 Ornithology – EIA Scoping Opinion comments

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
PINS [ID 3.3.1]	Skipwith Common SSSI - The Scoping Report states that potential impacts to the qualifying features of this designation are considered unlikely due to distance and lack of potential impact pathways with the	A detailed assessment of Skipwith Common SSSI was undertaken at the PEIR stage, which concluded that significant adverse effects were unlikely.

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
	<p>potential to affect designated features during the construction, operation and decommissioning phase and construction traffic movements considered to be insufficient to create potential pathways through air pollution.</p> <p>The Inspectorate does not agree that this matter can be scoped out at this stage, without evidence demonstrating that no significant effects from the Proposed Development are likely and clear agreement with relevant statutory bodies where possible should be submitted with the ES.</p> <p>A full assessment of the direct and indirect effects on any national and international designated sites, such as SSSIs and any mitigation measures to avoid, minimise or reduce any adverse significant effects should be set out in the ES.</p>	<p>Natural England subsequently agreed with this conclusion. In accordance with the PINS EIA Scoping Opinion, the ES includes a proportionate summary assessment (paragraphs 12.11.8-12.11.11) demonstrating that no credible impact pathways exist and no significant adverse effects are therefore predicted.</p>
<p>PINS [ID 3.3.4]</p>	<p>Thorne & Hatfield Moors SPA – The Scoping Report states that potential impacts to the qualifying features of this designation are considered unlikely due to distance and lack of potential impact pathways with the potential to affect designated features during the construction, operation, and decommissioning phase.</p> <p>The Inspectorate agrees that this matter can be scoped out, provided information demonstrating that significant effects from the Proposed Development are not likely and evidence of agreement with relevant statutory bodies where possible is submitted with the ES.</p>	<p>Following further assessment and consultee engagement, Natural England (meeting held 16 April 2025) and North Yorkshire Council (meeting held 20 March 2025) agreed that Thorne & Hatfield Moors SPA can be scoped out due to the substantial separation distance (18 km) and absence of records and of any plausible impact pathways. Paragraphs 12.11.16-12.11.18.</p> <p>Comments relating to the associated SAC are addressed in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06].</p>
<p>PINS [IDs 3.3.8 and 3.3.9]</p>	<p>The Scoping Report states that there is potential for direct damage to habitats in the adjacent Gilbertsons Plantation SINC. However, a 15 m buffer from this SINC is proposed (as it is an ancient woodland) and this buffer, as well as the measures in the oCEMP/oLEMP should suffice</p>	<p>The EIA Scoping Report noted that SINCs were scoped in on the basis of supporting a range of flora and fauna. However, no specific reference was made to ornithological interest. Subsequent review of baseline</p>

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
	<p>to prevent direct impacts during construction, operation, and decommissioning phase.</p> <p>The Inspectorate agrees that this matter can be scoped out on this basis, provided information demonstrating that significant effects from the Proposed Development are not likely.</p> <p>SINCS- The Scoping Report states that potential impacts to the qualifying features of all other SINCS are considered unlikely due to distance and lack of impact pathways with the potential to affect designated features during the construction, operation, and decommissioning phase.</p> <p>The Inspectorate agrees that this matter can be scoped out on this basis, provided that information demonstrating that significant effects from the Proposed Development are not likely and evidence of agreement with relevant statutory bodies where possible is submitted with the ES.</p>	<p>information is provided in Section 12.8: non-statutory designated nature conservation sites which confirms that the SINCS are not relevant to ornithology.</p> <p>Note that consideration of Gilbertsons Plantation for this chapter is included in the above due to no ornithological interest at this SINC. PINS comment [I.D. 3.3.8].</p> <p>All SINCS have been addressed in detail in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06] due to no ornithological interests being present within the site.</p>
<p>PINS [ID 3.3.10]</p>	<p>Loss of extensive areas of arable habitat is anticipated and considered to be a habitat of negligible ecological importance. For those species of which this habitat has value (such as breeding birds), these species are scoped into the assessment and the value of this habitat is assessed within that feature.</p> <p>The Inspectorate is content for this matter to be scoped out on this basis, provided that there is evidence demonstrating that no significant effects from the Proposed Development are likely, and clear agreement with relevant statutory bodies where possible should be submitted with the ES.</p>	<p>Assessment of breeding bird use of arable land has been included within the ES, Section 12.15 and 12.16.</p>
<p>PINS [ID 3.3.15]</p>	<p>The Scoping Report sets Study Areas for statutory and non-statutory designated sites based on fixed distances. The ES should consider the potential for effects to occur beyond these fixed distances, particularly where sites are designated for mobile species such as birds and bats, or</p>	<p>During consultation, the Study Area used at scoping has been agreed during meetings with Natural England (16 April 2025) and North Yorkshire Council (20 March) (Table 12-6).</p>

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
	<p>where there is hydrological connectivity. Effort should be made to agree the study area with relevant consultation bodies.</p>	<p>Bird species recorded during the field surveys have been assessed against the Humber Estuary WeBS data and designated sites up to 20 km have been considered as part of the assessment.</p> <p>From an air quality perspective, there is no credible dispersion pathway linking construction dust or traffic emissions to any sensitive ornithological receptors, and therefore air quality does not influence the extent or definition of the ornithology Study Area (Section 12.3)</p>
<p>PINS [ID 3.3.17]</p>	<p>The ES Biodiversity chapter should consider all potential impact pathways and assess any impacts arising from the Proposed Development which are likely to result in significant effects on ecological receptors. Justification for scoping out any ecological impact should be provided. For ecological receptors sensitive to air pollution, the ES should demonstrate how this matter has been assessed to demonstrate that no likely significant effects will occur</p>	<p>These are addressed in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06]</p>
<p>Natural England EIA/ Biodiversity</p>	<p>The development site is within or may impact on the following European/internationally designated nature conservation site(s):</p> <ul style="list-style-type: none"> • Humber Estuary SPA & Ramsar • Lower Derwent Valley SPA & Ramsar <p>The ES should thoroughly assess the potential for the proposal to affect internationally designated sites of nature conservation importance / European sites, including marine sites where relevant. This includes SPAs, SACs, listed Ramsar sites, candidate SAC and proposed SPA.</p>	<p>Assessment of these designated sites has been included within the ES (Section 12.11 and 12.12) and Habitats Regulations Assessment (HRA) [EN0110012/APP/LVS/05.11].</p>
<p>Natural England Biodiversity/ Guidance</p>	<p>NE primarily recommends that wintering bird surveys should be undertaken in line with Annex C. Where this methodology is not followed, we recommend that justification on why the surveys undertaken</p>	<p>Wintering and passage surveys have been undertaken in line with NE's advice as part of the DAS within the Solar</p>

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
<p>(Discretionary Advice Service)</p>	<p>will capture the required information should be provided within the subsequent HRA. Where transect surveys are used, NE recommend the routes taken should be mapped and provided within the HRA. NE noted that currently a single year of wintering surveys is proposed. As solar farms have big development footprints, we recommend the use of two years of surveys to provide a robust understanding of the bird species which use the site, specifically in relation to Site 1. The proposed methodology also does not currently propose surveys to be undertaken during the spring and autumn passage periods. We advise these should be taken along with the additional year of wintering surveys; however we would be agreeable to a single year of passage surveys being undertaken.</p> <p>We advise it would also be beneficial to ensure the survey locations allow collection of survey data up to a buffer of 300m out with the redline boundary, as there is potential for noise disturbance impacts during the construction period.</p> <p>We would also advise that the surveys are supported by use of a desk study in the HRA. This should include;</p> <ul style="list-style-type: none"> • Consultation with the Council’s Ecologist; • Consultation with local bird groups and other organisations that may hold relevant information; 	<p>Development Sites and the Cable Route Corridor route. It is important to note that on-going consultation with Natural England remains on-going based on the use of one-year of baseline data.</p> <p>The Applicant submitted a document on the one-year rationale in July 2025, and Natural England responded to this in August 2025 [UDS-A015616/EN0110012].</p> <p>Natural England accepted the proposed approach to determining mitigation requirements using one year of surveys in principle for this Application based on the one-year rationale document.</p> <p>Once the full year baseline had been collected, a second document was sent on 27 October 2025, fulfilling Natural England’s advice whereby the full one-year baseline was evaluated alongside cropping conditions and flood data.</p> <p>NE confirmed on 18 December 2025 that bird-day calculations are acceptable when supported by ecological context, including habitat capacity, site-use patterns and the quality of proposed mitigation. NE welcomed the planned wet grassland, scrapes and hydrological measures, and advised that deliverability and precaution be evidenced in the sHRA [EN0110012/APP/LVS/05.11].</p> <p>Natural England also acknowledged and confirmed its agreement to the cessation of</p>

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
		<p>field surveys on 14 January 2025 and accepted the one-year baseline provided.</p> <p>The sHRA [EN0110012/APP/LVS/05.11] presents the detailed calculations, variability buffers, frequency-of-use analysis and justification for the Bird Mitigation Area, assessing them under Regulation 63 in relation to the Lower Derwent Valley and Humber Estuary SPA/Ramsar sites. The ES ornithology chapter should be read alongside the sHRA [EN0110012/APP/LVS/05.11] for completeness.</p> <p>Note that all correspondence between the Applicant and Natural England are provided in sHRA Appendix A.4 [EN0110012/APP/LVS/05.11]</p> <p>The full one-year baseline data is assessed within the ES (Paragraph 12.13.18 onwards) and sHRA [EN0110012/APP/LVS/05.11].</p> <p>Note that consultation has been undertaken with the LPA, the RPSB, Yorkshire Wildlife Trust and Natural England Senior Reserve manager throughout the consultation process (Table 12-6).</p>
Section 7- North Yorkshire Council	One of the main ecological concerns at this stage is the scale and location of the proposed development. This is an area of the County where there are several large-scale developments, with similar impacts upon ecological features. As such the	Assessment of impacts to ground nesting birds has been included as part of the ES and cumulative impact assessment. Each development has been assessed in detail, including the

EIA Scoping Opinion I.D	Scoping Opinion comment	How is this addressed
	cumulative impact assessment will be very important, in relation to impacts upon sites of international importance and impacts resulting from loss of agricultural land such as those upon ground nesting birds. Where necessary, compensation options for impacts that cannot be avoided or mitigated on site, should be proposed, including the method for securing long term management.	number or territories loss, and (or) whether these have been mitigated in Section 12.19.

Statutory consultation

12.4.4 A period of statutory consultation took place between 26 June to 7 August 2025 wherein consultees were able to respond to information set out in the Preliminary Environmental Information Report (PEIR). Table 12-6 outlines the statutory consultation responses relating to ornithology and how these have been addressed through the ES.

12.4.5 Responses to the Statutory Consultation are outlined in the Consultation Report [EN0110012/APP/LVS/05.1].

Table 12-6 Statutory consultation comments

Consultee	Comments	How has this comment been addressed	Location of response in this ES
Natural England [S42 ID 195]	<p>Humber Estuary SPA and Lower Derwent Valley SPA</p> <p>SPAs are classified for rare and vulnerable birds. Many of these sites are designated for mobile species that may also rely on areas outside of the site boundary. These supporting habitats may be used by SPA bird populations or some individuals of the population for some or all of the time.</p> <p>These supporting habitats can play an essential role in maintaining SPA species populations,</p>	The full one-year baseline has been provided in the ES and has been assessed against the monthly 5 year counts for each the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites.	All matters noted have been addressed in the (sHRA) and the ES, Section 12.8 presents the WeBS and field data and is assessed 12.11 of this chapter, onwards.

Consultee	Comments	How has this comment been addressed	Location of response in this ES
	and proposals affecting them may therefore have the potential to affect the European site.		
Natural England [S42 ID 195]	We note that bird survey results will be presented in the Environmental Statement (ES), following the completion of surveys in April to September 2025. Natural England therefore cannot provide detailed advice at this stage. We advise that the wintering/passage bird survey results should be considered in the context of the Lower Derwent Valley SPA and Humber Estuary SPA in the HRA, and we will provide detailed comments on potential impacts on SPA birds once consulted.	The Applicant confirms that both the ES and HRA consider both the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites alongside the field survey results for non-breeding birds.	sHRA [EN0110012/APP/LVS/05.11] and Table 12-16 and Table 12-17 of the ES.
Natural England [S42 ID 195]	However, we advise that based on the information presented in Chapter 12 – Ornithology, mitigation for loss of FLL will be required. The results should be presented and assessed in the context of percentages of the Humber Estuary SPA and Lower Derwent Valley SPA	All results are presented alongside the 1% monthly thresholds for both the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites. The 1% is not solely relied upon throughout the document. Alone and in-combination assessments have also been completed. Vulnerable species such as whooper swan and whimbrel have also been	Fully addressed in the ES in Section 12.16 and Table 12-17 which presents the baseline results and 1% monthly mean for each species against the Humber Estuary and Lower Derwent Valley SPA and Ramsar sites. FLL is addressed and assessed in Section 12.14. Assessment of FLL is also completed in the

Consultee	Comments	How has this comment been addressed	Location of response in this ES
	<p>populations, according to the most recent WeBS 5-year average count. Natural England has generally advised that if $\geq 1\%$ of a Humber Estuary bird species population could be affected by a proposal, alone or in combination with other plans or projects, then further consideration is required. However, where species are particularly vulnerable due to declines in the Humber population, then it may not be appropriate to rely on the 1% of the designated site population as the critical threshold. Mitigation measures may be required where lower numbers of vulnerable species are using a site that is proposed for development.</p>	<p>highlighted and considered where necessary.</p>	<p>associated sHRA [EN0110012/APP/LVS/05.11]</p>
<p>Natural England [S42 ID 195]</p>	<p>The assessment should consider both direct loss of FLL due to siting of the solar panels, and the potential for loss of suitability of adjacent land for birds due to disruption of open vistas and impacts on connectivity of feeding/roosting areas. Potential for noise and visual</p>	<p>Bird species recorded outside of the Order Limits for the Solar Development Sites and the Cable Route Corridor have been included as part of the overall assessment.</p>	<p>Addressed in paragraph 12.8.35 onwards. All maximum peak counts have been included within the overall assessment, which includes species recorded in adjacent fields (outside of the Order Limits). Disturbance for non-breeding birds is discussed in 12.13.18 onwards (and the sHRA</p>

Consultee	Comments	How has this comment been addressed	Location of response in this ES
	disturbance to adjacent FLL during the development construction phase should also be assessed.		[EN0110012/APP/LVS/05.11] and breeding birds is discussed in 12.15, onwards.
Natural England [S42 ID 195]	Natural England produced a 2016 review of available literature on the impact of solar farms on birds (NEER012) which may be useful when undertaking the HRA.	Noted this has been considered in the ES and the sHRA [EN0110012/APP/LVS/05.11].	N/A
Natural England [S42 ID 205]	We note that Chapter 12 of the PEIR concludes there will not be a significant impact on birds associated with designated sites Fairburn and Newton Ings SSSI and Skipwith Common SSSI. Based on the justification provided we concur this impact pathway can be ruled out from further assessment.	The Applicant welcomes this. Both sites have been scoped out.	Section 12.11 of this ES Chapter confirms this based on the detailed assessment provided within the PEIR.

Targeted consultation

12.4.6 A period of targeted consultation took place between 16 October 2025 and 20 November 2025, during which feedback was encouraged to comment on minor changes to the development boundary area, in relation to access points during construction and operation; visibility splays to ensure safe sightlines for vehicles entering and exiting the Proposed Development; passing places on narrow roads; access requirements for abnormal indivisible loads (less frequent but large delivery vehicles that have wider turner circles); cable route adjustments to avoid environmental and engineering constraints; and permissive paths to enable increased public access routes within the Solar Development Sites. Table 12-7 outlines the statutory consultation responses relating to ornithology and how these have been addressed through the ES.

12.4.7 Full responses to the targeted consultation are outlined in the Consultation Report **[EN0110012/APP/LVS/05.01]**.

Table 12-7 Targeted consultation comments

Consultee	Comment	Applicant response
Natural England	The site lies within, or could affect, internationally designated bird sites including the Humber Estuary and Lower Derwent Valley. If the proposed changes result in additional significant land take, it should be considered within the bird assessment and consider whether additional land parcels will be suitable for notified SPA birds, and whether the location is sufficiently covered by desk study information or the surveys undertaken for the project.	<p>The ornithological assessment is based on a systematic desk study and comprehensive breeding and non-breeding bird surveys, undertaken in accordance with recognised guidance and reported in Chapter 12: Ornithology (ES Volume 1) [EN0110012/APP/LVS/06.01.12] and its supporting appendices, including Appendix 12.1: Breeding Bird Survey Report – Solar Development Sites 1-5 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.01], Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02], and the Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03].</p> <p>Potential effects on mobile SPA/Ramsar bird species, including use of land outside designated site boundaries, have been explicitly considered through the assessment of FLL and are addressed in both the Environmental Statement and the Habitat Regulations Assessment. Land take associated with the Proposed Development, including relevant field parcels, has therefore been fully assessed in relation to SPA qualifying features and supporting habitats.</p> <p>The Applicant has also maintained ongoing engagement with Natural England regarding the protection, mitigation and enhancement of bird species associated with the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites. This engagement has informed the scope of surveys, assessment approach and the development of mitigation, including the Bird Mitigation Area, ensuring that all relevant habitats and land parcels are appropriately covered by desk study and field survey evidence.</p>
Thorganby Parish Council	The Lower Derwent Valey NNR has been recognised by the UK Government as a SPA	The sHRA [EN0110012/APP/LVS/05.11] has been completed to assess the impact of the development on international sites. Effects on

Consultee	Comment	Applicant response
	and Ramsar site. The area sees tens of thousands of migrating birds visiting each year. There is a danger of massive solar arrays causing disturbance to migratory flightpaths, creating “false lake” effects and thereby causing death, injury and displacement amongst the birdlife normally seen in the area, in contrary to the safeguards put in place to establish the protected status of the area.	national and local sites are assessed within ES Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06] . Glint and glare effects on birds are assessed as negligible. There is no robust evidence from UK studies or Natural England reviews that solar PV glint causes disturbance or collision risk to birds. Baseline surveys recorded no regular or directional flight paths over the site, and similar UK solar projects have not identified avian impacts from glint or glare. See Section 12.17 of this Chapter.

Stakeholder engagement

12.4.8 The following stakeholders have been engaged with regards to Ornithology as part of the assessment process:

- 1) Natural England;
- 2) North Yorkshire Council
- 3) North Yorkshire Wildlife Trust;
- 4) Royal Society Protection of Birds (RSPB); and
- 5) Natural England Senior Reserve Manager- part of Friends of Derwent Valley.

12.4.9 The outputs of the engagement undertaken are presented in Table 12-5.

Table 12-5 Ornithology – engagement undertaken

Stakeholder	Date engaged	Matters raised	Response
North Yorkshire Council	1 October 2024	Project context and proposed survey scope NYC were keen to know how birds are using the site to begin with and how they are using them post-development in the short, med and long-term – keen to see that monitoring is undertaken as well as suitable mitigation solution. Enhancement measures expected to be	Surveys are in line with Natural England (NE) guidance (Annex C) (Ref 28) which addresses how birds are utilising the Site which is detailed in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02] . 65.7 ha of land ‘Bird Mitigation Area’ is aimed at supporting non-breeding and breeding birds has been incorporated into the design and part of the

Stakeholder	Date engaged	Matters raised	Response
		<p>substantial but should be designed to provide a positive impact on a range of species</p>	<p>oBMAMP [EN0110012/APP/LVS/07.19]. The design of this area is expected to substantially enhance the current baseline of bird species recorded within and outside of the Order Limits.</p>
<p>Natural England</p>	<p>17 October 2024</p>	<p>Project context and survey scope in relation to designated sites.</p> <p>NE highlighted some designations may have larger impact risk zones outside of the current 2 km search area – e.g. 5-10 km Current non-breeding bird survey methodology was discussed with NE.</p> <p>NE advised that two years of survey effort should be undertaken.</p> <p>NE queried the omission of spring and autumn passage periods and recommended their inclusion in future survey scope.</p> <p>NE advised that surveys should align with guidance in Annex C (previously shared).</p> <p>NE advised that surveys may be required along the Cable Route Corridor near Site 1 if construction occurs during the non-breeding bird season.</p>	<p>Designations with larger impact risk zones outside of the current 2 km Study Area – e.g. 5-10 km have been considered (Lower Derwent Valley and the Humber Estuary).</p> <p>Passage and non-breeding bird surveys (September 2024-September 2025) have been included within the survey effort and are completed and presented within the ES and sHRA [EN0110012/APP/LVS/05.11].</p> <p>Passage surveys (April-May 2025 and August / September-October 2025) along the Cable Route Corridor have been completed, where areas fall within the Lower Derwent Valley SSSI impact risk zone.</p> <p>Survey methodology aligns with guidance in Annex C (Ref 28) and agreed with Natural England.</p> <p>The Applicant can confirm that FLL was assessed based on the 1% threshold and whether this was exceeded regularly and (or) was ornithologically meaningful (paragraph 12.6.10).</p>

Stakeholder	Date engaged	Matters raised	Response
		NE confirmed that FLL is typically defined as supporting 1% of the population, though slightly lower levels may still indicate regular use.	The ES and HRA takes into account the results from the non-breeding bird surveys.
North Yorkshire Council	20 March 2025	Scoping and survey effort	<p>The LPA agreed that designated sites over 20 km from the Order Limits have been scoped out due to separation distance. This includes those designations which are situated over 20 km from the Study Area which are designated for birds. The LPA agreed with the sites that have been scoped in and out.</p> <p>The LPA was satisfied with the survey approach with regards to passage and breeding birds within the Solar Development Sites and the Cable Route Corridor.</p> <p>With regards to non-breeding birds and the proximity of statutory sites, the LPA defers to NE.</p>
Natural England	16 April 2025	Scoping and survey effort	<p>Designated sites over 20 km from the Study Area have been scoped out due to separation distance. This includes those designations which are situated over 20 km from the Study Area which are designated for birds.</p> <p>NE agreed that Thorne and Hatfield SPA can be scoped out based on lack of impact pathway.</p> <p>NE agreed on the passage season survey approach to the Solar Development Sites</p> <p>NE agreed that due to the temporary nature of impacts</p>

Stakeholder	Date engaged	Matters raised	Response
			during construction of the Cable Route Corridor, and the topography of the landscape, surveys using the method outlined are proportionate for this development, however this must be justified in the methodology details.
Natural England	16 April 2025	One-year survey rationale for approach to design of the Mitigation Area.	Natural England agreed to review the Applicant's document supporting a one-year survey baseline to justify the scope and extent of the required mitigation.
RSPB	6 June 2025	Discussion of baseline results and whether the RSPB had any immediate concerns	RSPB welcomed the survey approach and agreed that the SSSIs (Skipwith common and Fairburn Newton Ings) would not be impacted as a result of the development.
Yorkshire wildlife trust and RSPB	31 July 2025	Discussion of baseline results and whether the YWT had any immediate concerns. YWT would like to see the assessment of impacts from a cumulative point. YWT state that they would like to see that all habitat creation is done under S106 and is delivered in perpetuity. The RSPB were unable to attend the meeting but were sent across a transcript.	The Applicant has provided cumulative impact assessment and has assessed impacts to breeding and non-breeding birds. The Bird Mitigation Area will be managed for the lifetime of the development.
Natural England	6 August 2025	Natural England response to one-year rationale document	A response from Natural England [UDS-A015616/EN0110012] regarding the one-year rationale was accepted in principal and asked for further clarification once a full one-year baseline had been collected. The Applicant provided this on: 27 October 2025

Stakeholder	Date engaged	Matters raised	Response
Natural England (Senior Reserve Manager)	11 September 2025	Discussion with Senior Reserve Manager to discuss one year baseline results, whimbrel and the Mitigation Area	Natural England senior reserve manager confirmed that there were no whimbrel within or surrounding the Order Limits, and all bird species had been captured within the results. Natural England senior reserve manager welcomed the proposed Bird Mitigation Area and the additional mitigation delivered as part of the Bird Mitigation Area in principal. Natural England senior reserve manager was satisfied and agreed it would support non-breeding bird species, breeding bird species and would be beneficial to the corncrake breeding project (Ref 64).
Esckrick Park Estate	24 November 2025	Discussion with Esckrick Park Estate about Solar Development Site 1 and the Bird Mitigation Area	Esckrick Park Estate reported that yellowhammer numbers are continuing to decline, as evidenced through ongoing ringing activities. Esckrick Park Estate confirmed that the local barn owl population, including existing nest boxes, is not subject to any formal monitoring. Esckrick Park Estate indicated that they actively collaborate with the Natural England management of the Lower Derwent Valley NNR on conservation and land management initiatives, and the Friends of the Lower Derwent Valley often volunteer on the estate's NNR, Skipwith Common, in particular when the LDV is flooded. Esckrick Park Estate welcome the Bird Mitigation Area design.
Natural England	19 December 2025	Natural England response to Evaluation of Bird Usage Variability	Natural England acknowledged receipt of the additional information and

Stakeholder	Date engaged	Matters raised	Response
		and Justification for One-Year Survey Effort	confirmed that bird-day calculations can form part of the evidence base where interpreted alongside frequency of use, habitat quality and inter-annual variability. NE requested that the justification for buffer application, representativeness of the survey year and the design and deliverability of the Bird Mitigation Area be clearly set out within the sHRA [EN0110012/APP/LVS/05.11] .
Natural England	14 January 2026	Acknowledgement of one year baseline	Natural England acknowledged and confirmed its agreement to the cessation of field surveys on 14 January 2025 and accepted the one-year baseline provided.

12.5 Natural England

- 12.5.1 NE, as the relevant statutory consultation body, was engaged via its Discretionary Advice Service (DAS) due to the proximity of the Proposed Development, particularly Solar Development Site 1, to the Lower Derwent Valley SPA and Ramsar Site. All correspondence can be found in Annex A.4 of the sHRA **[EN0110012/APP/LVS/05.11]**.
- 12.5.2 Throughout the consultation process, advice was sought regarding appropriate survey methodologies. These recommendations were implemented during the survey period, which ran from September 2024 to September 2025 and therefore covered the main winter season, spring passage season and autumn passage season.
- 12.5.3 During a meeting held with NE on 16 April 2025, it was suggested by the Applicant that one-year of survey may be appropriate based on the results received to date. A supporting document was subsequently submitted to NE to justify the use of a single year of field survey data. This document provided an analysis of the baseline data and incorporating variability using the Lower Derwent Valley SPA WeBS dataset.
- 12.5.4 NE responded on 6 August 2025, provisionally agreeing with the analysis and overall assessment. However, NE requested further clarification and consideration of additional factors relating to Solar Development Site 1. These included cropping data, flood data, and a more detailed explanation of the buffer analysis applied to account for inter-annual variation.

- 12.5.5 A formal response addressing these points was submitted to NE on 27 October 2025.
- 12.5.6 NE responded on 18 December 2025, acknowledging the additional information provided. NE confirmed that bird-day calculations can be used as one part of the evidence base, provided they are interpreted alongside ecological knowledge of habitat carrying capacity, frequency of site use and the quality of the proposed mitigation habitat. NE also welcomed the inclusion of wet grassland, scrapes and hydrological management measures within the Bird Mitigation Area and advised that deliverability and precaution should be demonstrated within the sHRA [EN0110012/APP/LVS/05.11].
- 12.5.7 The detailed bird-day calculations, application of inter-annual variability buffers, frequency-of-use analysis and justification of the size and design of the Bird Mitigation Area are therefore presented in the sHRA [EN0110012/APP/LVS/05.11], where they are considered explicitly in the context of Regulation 63 and the integrity of the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites. The ES ornithology chapter should be read alongside the sHRA [EN0110012/APP/LVS/05.11].
- 12.5.8 Natural England also acknowledged and confirmed its agreement to the cessation of field surveys on 14 January 2025 and accepted the one-year baseline provided.

12.6 Methodology

Overview

- 12.6.1 The assessment methodology is set out below with relevance to the following receptors:
- 1) Internationally, nationally and locally designated sites;
 - 2) FLL associated with internationally designated sites; and
 - 3) Breeding and non-breeding bird species.
- 12.6.2 Please note, Biodiversity is assessed separately in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06].

Baseline methodology

Data sources

- 12.6.3 The following desktop sources have been used to inform the existing baseline conditions of the Study area (Order Limits and up to 10 km):
- 1) Multi-Agency Geographic Information for the countryside (MAGIC) website (Ref 29);
 - 2) North & East Yorkshire Ecological Data Centre (Ref 30);
 - 3) North Yorkshire Council website (Ref 31);

- 4) Joint Nature Conservation Committee (JNCC) website (Ref 32);
- 5) Natural England (NE) designated sites website (Ref 33);
- 6) Yorkshire Ornithological Club (YOC) (Ref 34);
- 7) Wetland Bird Survey (WeBS) Sector data (Ref 35); and
- 8) British Trust for Ornithology (BTO) Data Report (Appendix 12.2 Non-breeding Bird Survey Report (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.02]** and Appendix 12.3 Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.03]**).

Field survey

12.6.4 The following surveys have been undertaken and used to inform the existing baseline conditions assessed in the ES, all of which have been undertaken by Avian Ecology Limited (AEL) on behalf of the Applicant, unless stated otherwise:

- 1) Breeding Bird Surveys for Solar Development Sites 1-4 (2024) undertaken by Tyler Grange, up to 50 m outside of the Order Limits (Appendix 12.1: Breeding Bird Survey Report – Solar Development Sites 1-5 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.01]**);
- 2) Breeding Bird Surveys for Solar Development Sites 6/7 and 8, up to 50 m outside of the Order Limits (12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.03]**);
- 3) Breeding Bird Feature Suitability Assessment across the entire Cable Route Corridor, Solar Development Sites and HIAs that fall within, up to 200 m of the Order Limits (Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.03]**);

12.6.5 Note that this method includes mapping suitable features with a particular focus on Schedule 1 birds as identified during the desk study and field surveys. This was consulted and agreed with the LPA during a meeting held on 20 March 2025 (Table 12-8).

- 1) Non-Breeding Bird Surveys for Solar Development Sites 1-4 and 6/7-8 undertaken between September 2024 and September 2025, up to 300 m outside of the Order Limits and HIAs that fall within (Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.02]**); and
- 2) Autumn passage (August-October, inclusive) and spring passage (April to May, inclusive) surveys within the Cable Route Corridor and HIAs that fall within, up to 300 m outside of the Order Limits (Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.02]**). The surveys included all parts of the

Cable Route Corridor that fell within the SSSI IRZ (see paragraph 12.8.9), as agreed with Natural England.

Sensitive receptors

- 12.6.6 The sensitive receptors identified for inclusion in the Ornithology assessment are:
- 1) Internationally and nationally designated sites;
 - 2) FLL (associated with the internationally designated sites; see paragraph 12.6.10; and
 - 3) Non-breeding and breeding bird species (see categories below).
- 12.6.7 Particular focus will be given to non-breeding species falling into the following categories:
- 1) Species listed within the Lower Derwent Valley and Humber Estuary SPA and Ramsar citations;
 - 2) Species considered as part of the following waterbird assemblage(s) (Annex B (Ref 66) and Annex B1):
 - a) Species which are not specifically listed on the SPA citation but occur at site levels of more than 1% of the national population according to the most recent Lower Derwent Ings Wetland Bird Survey (WeBS) 5-year average count;
 - b) Species where more than 2000 individuals are present according to the most recent Lower Derwent Ings WeBS 5-year average count; and
 - c) Waterbirds listed on Annex I under the article 4.1 and 4.2 of the Directive.
- 12.6.8 Other species which do not fall into the above categories are considered where relevant, such as Schedule 1 Wildlife and Countryside Act listed species.
- 12.6.9 Particular focus will be given to breeding species falling into the following categories:
- 1) Ground nesting species that are listed on the Birds of Conservation Concern Red List (BoCC);
 - 2) Ground nesting species that are listed on the Birds of Conservation Concern Amber List (BoCC);
 - 3) Ground nesting species that are listed as UK Biodiversity Action Plan (BAP) Priority Species if applicable;
 - 4) Ground nesting species that are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
 - 5) Species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); and
 - 6) Species listed under Annex I of the Bird Directive.

Functionally Linked Land definition and assessment

- 12.6.10 In the context that the Proposed Development does not directly affect any European sites, the primary consideration of the potential impacts on land which meets the criteria of FLL to the nearest relevant European site, including the SPAs listed in paragraph 12.8.5.
- 12.6.11 The assessment identifies and describes areas within and surrounding the Order Limits that could potentially meet the criteria of FLL, which will be based on a combination of desk-based analysis and field survey data, whilst applying the broad Natural England definition of FLL as “*areas of land occurring within 20 km of an SPA, that are regularly used by significant numbers of qualifying bird species*”.
- 12.6.12 Furthermore, as per the responses from Natural England (17 October 2024) during a meeting as part of the DAS, FLL is broadly defined as supporting 1% of the population, though slightly lower levels may still indicate regular levels. Natural England stated that the results should be presented and assessed in the context of percentages of the Humber Estuary SPA and Lower Derwent Valley SPA populations, according to the most recent WeBS 5-year average count. Natural England has generally advised that if $\geq 1\%$ of a Humber Estuary bird species population could be affected by a proposal, alone or in combination with other plans or projects, then further consideration is required [S42 ID 195]. This approach has been applied here; whereby 5-year WeBS (Lower Derwent Valley and the Humber Estuary SPA sites) monthly peak and average totals are applied and assessed against the field survey data.
- 12.6.13 Using the WeBS maximum monthly peak totals obtained from the BTO is considered beneficial, as it avoids underestimating the importance of the Order Limits and the adjacent fields (peak counts outside of the Order Limits are merged where appropriate). In contrast, relying solely on the 5-year mean average is less informative because it does not reflect seasonal / monthly trends, presence or absence and may obscure peaks due to its aggregation across the year. When comparing the 5-year average to monthly averages, the 5-year overall average was greater and therefore, the monthly averages are applied as a precautionary measure.

Assessment methodology

Geographical scope

- 12.6.14 A desk-based study and/or initial site survey were used to identify important ornithological features (sites, habitats and species) which may be affected by the Proposed Development, to determine the potential Zones of Influence (ZOIs), and to inform the scope of further survey work required.
- 12.6.15 The Study Area extends beyond the Order Limits to include the geographical scope listed within paragraph 12.2.8.

Temporal scope

- 12.6.16 This ES Chapter considers the construction, operational and decommissioning phases of the Proposed Development.

Sensitivity of receptors

- 12.6.17 The results of the initial desk study, site surveys and data gathered during detailed surveys have been used to evaluate the importance of ecological resources within the ZOI in accordance with Chartered Institute of Ecology and Environmental Management (CIEEM) EclA guidance (Ref 18).
- 12.6.18 The CIEEM guidance provides a framework for the evaluation of features that considers the direct biodiversity importance of habitats and species, the indirect importance of features which help support the ecological integrity of key features, legal protection for both sites and species, and evaluation against national and local planning guidance and objectives. It uses a geographic frame of reference for identifying important ecological features in accordance with the scale in Table 12-8.

Table 12-8 Importance of ecological features

Designation	Receptors
International	An ecological feature (species, designated site or habitat) which is important at an international level. A population that would meet the published selection criteria as a qualifying feature for designation of a SAC. An internationally designated site or candidate site, i.e. a Special Protection Area (SPA), proposed SPA (pSPA), SAC, candidate SAC (cSAC), Ramsar site, or an area which would meet the published selection criteria for such designation. Other significant areas of Annex 1 priority habitats listed in the Habitats Directive, the loss of which would significantly change the overall range and area of the national site network.
National (England)	<p>Nationally significant populations of species identified in the NPPF as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), the loss would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the national scale. A population that would meet the published selection criteria as a qualifying feature of a SSSI.</p> <p>A nationally designated site, i.e. SSSI, National Nature Reserve (NNR) or discrete area which would meet the published selection criteria for national designation. A significant area of a non-designated habitat type identified in the NPPF as being of principal importance for the conservation of biodiversity in England, the loss of which would significantly change the overall range and area should be a major component of areas that are at near-equivalence to SSSIs, meeting most of the published SSSI selection criteria.</p>

Designation	Receptors
Regional (Northeast)	<p>Regionally significant populations of species identified in the NERC Act Part 1 as being of principal importance for the conservation of the biodiversity of England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-listed'), the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the regional scale.</p> <p>A significant area of non-designated habitat type identified in the NERC Act, as being of principal importance for the conservation of biodiversity in England, the loss of which would significantly change the overall range and area of that habitat at the regional level in the long term. Significant areas of semi-natural ancient woodland that do not meet the national value criteria (above) should be considered at this scale due to the irreplaceable nature of such habitat.</p>
County (Selby District)	<p>Significant populations of species identified in the NERC Act as being of principal importance for the conservation of biodiversity in England, or otherwise formally deemed to be nationally rare and threatened (e.g. 'red-list'), or priority species in the County Biodiversity Action Plan the loss of which would significantly change the species' overall conservation status (i.e. range, abundance, population trend) at the County scale. Sites formally recognised by local authorities, e.g. SBI, or considered to meet published ecological selection criteria for such designation.</p> <p>A significant area of a non-designated habitat type identified in the NERC Act for the conservation of biodiversity in England, the loss of which would significantly change the overall range and area of that habitat at the county scale in the long term. A significant area of key habitat identified in the County BAP.</p>
Local (Escrick/Monk Fryston)	<p>Species listed on any of the above-mentioned priority lists, that appreciably enrich District/Borough biodiversity, but which are not in themselves of District/Borough importance of greater.</p> <p>Semi-natural habitats, listed on any of the above-mentioned priority lists, that appreciably enrich local biodiversity, but which are not in themselves of District/Borough importance or greater.</p>

Assigning magnitude of impact

- 12.6.19 The assessment considers impacts including direct loss of habitats, fragmentation and isolation of habitats, disturbance or killing/injury of species, changes to key ecological features, and changes to the local hydrology or water quality.
- 12.6.20 The following factors are considered when describing ecological impacts:
- 1) Positive or negative – an impact can improve or reduce the quality of the environment, evaluated against nature conservation objectives and policy;
 - 2) Extent – this is the area over which an effect occurs;

- 3) Magnitude – the size or amount of an effect, determined on a quantitative basis where practicable (see Table 12-9 below);
- 4) Duration – the time for which an effect is expected to last prior to recovery or replacement of the resource or feature;
- 5) Timing and frequency – some effects are only likely if they happen to coincide with a critical life-stage or seasons. Others may occur if the frequency of an activity is sufficiently high;
- 6) Reversibility- an irreversible (permanent) effect is defined as one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) effect is one from which spontaneous recovery is possible or for which effective mitigation is both possible and enforceable; and
- 7) Cumulative effects – where consideration is given to any other developments within the ZOI, together with the Proposed Development, may result in significant effects.

Table 12-9 Magnitude of effects

Magnitude	Environmental impact
Major	The impact is likely to have an adverse / positive effect on the integrity of a site or the conservation status of a species or species assemblage.
Moderate	The impact affects a site or the conservation status of a species or species assemblage, but the adverse impact would not affect integrity of that site or the conservation status of a species or species assemblage. A moderate positive impact would benefit conservation status of a site / species / species assemblage.
Minor	The impact is likely to have an adverse / positive effect an ecological feature but would not affect integrity or conservation status.
Negligible	An effect positive or negative would be minimal.
Neutral	No detectable change from the baseline condition.

12.6.21 It is also of value to attribute a level of confidence by which the predicted impact has been assessed, known as Impact Prediction Confidence. The criteria for these definitions are set out in Table 12-10 below:

Table 12-10 Impact Prediction Confidence

Confidence level	Description
High	The predicted impact is either certain i.e. a direct impact, or believed to be very likely to occur, based on reliable information or previous experience.
Low	The predicted impact and its levels are best estimates, generally derived from first principles of relevant theory and experience of the assessor. More information may be needed to improve confidence levels.

Significance criteria

- 12.6.22 The significance of an effect is the product of the magnitude of the impact and the importance or sensitivity of the ecological feature affected. The CIEEM (2018) EclA Guidance provides a complex framework for the consideration of impacts to ecological features, and the reader is referred to the guidance for full details (Ref 18). However, in summary, greater levels of significance are generally ascribed to large impacts on features of higher ecological importance and lesser levels of significance are generally ascribed to small impacts on features of higher ecological importance, or larger impacts on features of lower ecological importance.
- 12.6.23 In accordance with professional guidance and terminology, a significant effect, in ecological terms, is defined as an effect (positive or negative) on the integrity of a designated site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, including cumulative effects. Insignificant effects are those that would not result in such changes.
- 12.6.24 The importance of any features that would be significantly affected is then used to identify geographical scales at which the effect is significant. This value reflects the ornithological importance or sensitivity of the feature and is used alongside the predicted magnitude to determine significance in accordance with the criteria set out in Table 12-9 and Table 12-10.
- 12.6.25 Effects are unlikely to be significant where features of local importance or sensitivity are subject to small scale or short-term effects. However, where there are a number of small-scale effects that are not significant alone, it may be that, cumulatively, these may result in an overall significant effect.
- 12.6.26 The assessment of effects uses the terminology described above. However, to provide consistency with the terminology throughout the ES potential and residual effects (positive or negative) are also described using the terms set out in Chapter 4: Approach to the EIA (ES Volume 1) **[EN0110012/LVS/APP/06.01.04]** (magnitude of effects table).

12.7 Assumptions and limitations

- 12.7.1 Any limitations experienced during the breeding and non-breeding bird surveys are detailed within the associated Appendices (Appendix 12.1: Breeding Bird Survey Report – Solar Development Sites 1-5 (ES Volume 3))

[EN0110012/APP/LVS/06.03.12], Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.02]**, and Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.03]** below points have been summarised from these appendices.

Non-breeding bird surveys – Solar Development Sites

- 1) Ten of the twelve walking transects and 21 of the 24-vantage point (VP) surveys were completed in September 2024. Outstanding areas were covered during September 2025 to ensure completeness of the passage September baseline data collected within the Study Area.
- 2) VP17, VP18, VP19 VP20 and VP21 were removed due to the removal of Solar Development Site 5 from the Order Limits. However, the VPs and transects are retained on the ornithological survey Figure 12.3: Ornithological Survey Areas (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.03]** for completeness.

Non-breeding bird surveys – Cable Route Corridor

- 1) Survey coverage of the Cable Route Corridor within the SSSI Impact Risk Zone was limited to two single (as opposed to four) walkovers undertaken in April 2025 (diurnal and nocturnal) due to temporary access constraints. This is not considered a significant limitation, as the habitats and species recorded were consistent with those recorded within the Solar Development Sites, and which are considered representative of the habitat types present along the Cable Route Corridor and within the wider landscape.
- 2) VP surveys were not completed along the Cable Route Corridor due to the flat terrain of the area and temporary nature of the construction phase. This was consulted and agreed with Natural England advice (using the look-see method) via a DAS meeting on 16 April 2025.
- 3) Non-breeding bird surveys were only undertaken in the Cable Route Corridor that fall within the SSSI Impact Risk Zone, which was agreed with Natural England during the DAS in October. Note that only passage surveys (April/May and August/September/October 2025) were completed as construction during the core winter period will not be occurring.

Breeding bird surveys

- 1) During the 2024 breeding bird surveys, visit 3, dusk survey for T9, the survey had to be cancelled due to heavy rain and poor survey conditions. The survey was completed as a dawn survey the next day. The dusk survey was rearranged and completed during Visit 4 for T9.

12.7.2 Where information is not available or where survey results are inconclusive, assumptions are made (with justification) to assess potential impacts on ecological receptors and any mitigation solutions proposed. In such instances, in

accordance with CIEEM guidelines, the precautionary principle is applied, and which states that: *“In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effects, mitigation/compensation measures should be applied in accordance with the precautionary principle”*.

12.8 Baseline conditions

Existing baseline conditions

- 12.8.1 The Solar Development Sites are spread across a total of seven separate land parcels, referred to herein as ‘Solar Development Sites 1–4, 6/7 and 8’, or individually where appropriate.
- 12.8.2 Solar Development Site numbering used in this Ornithology chapter differs slightly from that used elsewhere in the ES (Figure 12.1: Proposed Development Overview (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.01]**). Although the Proposed Development originally identified Sites 1–4 and 6-8, overlapping ornithological survey buffers between Sites 6 and 7 resulted in these being combined for ornithological survey purposes, as results would otherwise be unclear. These Solar Development Sites will be referred to as a collective (a single unit) “Solar Development Site 6/7” hereafter.
- 12.8.3 Consequently, bird surveys were undertaken across six discrete survey units, referred to throughout this chapter as Solar Development Sites 1–4, 6/7 and 8 (with Solar Development Site 6/7 combined). See Figures 12.1 and 12.3 (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.01]** and **[EN0110012/APP/LVS/06.02.12.03]** for a visual reference of the survey coverage and Solar Development Site boundaries.
- 12.8.4 The locations and extents of the Solar Development Sites, as well as the Cable Route Corridor are shown in Figure 1.1: Site Location and Order Limits (ES Volume 2) **[EN0110012/APP/LVS/06.02.02.01]**. A description of Order Limits is provided in Chapter 2: The Proposed Development (ES Volume 1) **[EN0110012/APP/LVS/06.01.02]**.

Statutory designated nature conservation sites with ornithological relevance

- 12.8.5 A number of sites of international importance are present within 20 km of the Study Area (See Chapter 6: Biodiversity (ES Volume 1) **[EN0110012/APP/LVS/06.01.06]**) and Figure 6.1 to 6.5 (ES Volume 2) **[EN0110012/APP/LVS/06.02.06.01 – EN0110012/APP/LVS/06.02.06.05]**; these are listed below alongside their closest distance to the Order Limits:
- 1) Lower Derwent Valley SPA & Ramsar (2.8 km East of Solar Development Site 1) including the various underlying SSSIs: Derwent Ings SSSI 2.8 km east of Solar Development Site 1, Melbourne and Thorn Ings SSSI 6.5 km east of Solar Development Site 1, Brighton Meadows SSSI 7.5 km east of the Cable Route Corridor Options Area and Newton Mask SSSI 7.7 km

northeast of Solar Development Site 1. The following species are listed features on the SPA and Ramsar citations:

- a) Bewick's swan (Non-breeding);
 - b) Eurasian wigeon (Non-breeding);
 - c) Eurasian teal (Non-breeding);
 - d) Northern shoveler (Breeding);
 - e) European golden plover (Non-breeding);
 - f) Ruff (Non-breeding);
 - g) Waterbird assemblage;
 - h) Assemblage of migratory waders – Passage;
 - i) Teal-(Wintering);
 - j) Waterbird assemblage (Wintering);
 - k) Wetland invertebrate assemblage; and
 - l) Wigeon (Wintering).
- 2) Humber Estuary SPA and Ramsar (17.5 km East of Solar Development Site 4) qualifying features comprise:
- a) Avocet (breeding & non-breeding);
 - b) Bar-tailed godwit (non-breeding);
 - c) Bittern (breeding & non-breeding);
 - d) Black-tailed godwit (non-breeding);
 - e) Dunlin (non-breeding);
 - f) Golden plover (non-breeding);
 - g) Hen harrier (non-breeding);
 - h) Knot (non-breeding);
 - i) Little tern (breeding);
 - j) Marsh Harrier (breeding);
 - k) Redshank (non-breeding);
 - l) Ruff (non-breeding);
 - m) Shelduck (non-breeding); and
 - n) Waterbird assemblage.

12.8.6 The species listed above have been drawn from the SPA / Ramsar citations; however, it is important to note that NE provides additional local guidance indicating that species outside the listed qualifying features of the SPA should also be considered (Ref 36; Annex B and B1). This includes species recorded at site-level in numbers exceeding 1% of the national population, based on the most recent Wetland Bird Survey (WeBS) data (Ref 37) which is collected by the British Trust for Ornithology (BTO).

12.8.7 SSSIs which underpin the above international designations will also be considered as part of the European Sites listed above (listed in Table 12-1).

12.8.8 No proposed or candidate SPAs were identified within the search areas.

SSSI Impact Risk Zone

- 12.8.9 SSSI Impact Risk Zones (IRZs) are used as a rapid initial assessment tool to determine if a Proposed Development is likely to affect a SSSI and highlight when NE should be consulted. The Solar Development Sites are identified within the SSSI Impact Risk Zone (see Figure 12.2: SSSI Impact Risk Zone – Lower Derwent Valley (ES Volume 2) [EN0110012/APP/LVS/06.02.12.02]) of several SSSIs for the type and scale of development proposed (Solar schemes with footprint > 0.5 ha, all wind turbines). These zones, and the associated SSSIs, are considered in this assessment. The Cable Route Corridor also falls within the IRZs of several SSSIs for the type and scale of development proposed (all planning applications and solar schemes with footprint > 0.5 ha). Accordingly, the IRZs have been used to inform survey requirements and to identify where the Proposed Development could feasibly give rise to ornithological pathways. For clarity, Solar Development Site 1 and part of the Cable Route Corridor fall within the SSSI IRZ.
- 12.8.10 No additional statutory sites (e.g. LNRs) relevant to ornithology occur within 2 km of the Solar Development Sites or Cable Route Corridor. Therefore, the next section considers non-statutory designated sites and their relevance to the ornithology assessment.

Non-statutory designated nature conservation sites

- 12.8.11 Non-statutory designated sites (Site of Importance for Nature Conservation; SINCs) were identified and (see Appendix 1.1: EIA Scoping Report (ES Volume 3) [EN0110012/APP/LVS/06.03.01.01]) and have been scoped into the assessment from a broader biodiversity perspective (see Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06]). However, the non-statutory sites have been scoped out of the Ornithology assessment due to their distance from the Order Limits, lack of functional connectivity, and absence of ornithological interest features. As such, they are not considered further in this chapter.
- 12.8.12 However, FLL is relevant only to European sites designated for birds. To ensure clarity and avoid duplication, detailed FLL considerations are addressed in the following section on statutory designated sites and supporting habitats. Non-statutory designations do not form part of FLL and therefore require no further assessment in this context i.e. SSSIs, LNRs etc.

Terrestrial and riparian habitats supporting breeding birds

- 12.8.13 Habitats have been assessed individually for their value and in greater detail in Chapter 6: Biodiversity (ES Volume 1) [EN0110012/APP/LVS/06.01.06]. However, habitats associated with statutory designated features and habitats which will be directly impacted which will likely impact ground nesting birds have

been scoped in due to their importance to ornithological receptors. These habitats include:

- 1) Arable fields;
- 2) Grasslands;
- 3) Watercourses.

- 12.8.14 The above habitats are also the primary habitat types that support FLL for non-breeding SPA/Ramsar qualifying species. Their role as FLL is assessed separately within the non-breeding bird assessment (Section 12.14). In this section, they are considered specifically for their breeding bird value, not their FLL function.
- 12.8.15 Woodland, treelines, and boundary habitats are present throughout the Order Limits and are assessed in more detail in Chapter 6: Biodiversity (ES Volume 1) **[EN0110012/APP/LVS/06.01.06]** and Appendix 16.2: Arboricultural Impact Assessment (ES Volume 3) **[EN0110012/APP/LVS/06.03.16.02]**. Appendix 16.2: Arboricultural Impact Assessment (ES Volume 3) **[EN0110012/APP/LVS/06.03.16.02]** confirms that there is potential for the removal of 60 individual trees, 5 entire tree groups, 19 entire hedges (with a total length of 1543 m), and parts of 2 tree groups to facilitate the Proposed Development to facilitate development as a worst-case scenario. These losses are limited in extent and will be replaced through tree planting, detailed in the oCEMP **[EN0110012/APP/LVS/07.02]** and the oLEMP **[EN0110012/APP/LVS/07.05]** and are not expected to materially affect the distribution or conservation status of passerine or generalist species using these habitats. Accordingly, woodland, treelines and boundary features are not considered further within this chapter.
- 12.8.16 Furthermore, recent evidence suggests that solar farm environments offer enhanced foraging and nesting opportunities for various passerine species, particularly where field boundaries and scrub features are maintained and enhanced (Ref 39). As such, these habitats are not considered further within this chapter.

Ornithological species records

- 12.8.17 A number of records for bird species were returned from a range of data sources and are presented in detail within Appendix 12.1: Breeding Bird Survey Report – Solar Development Sites 1-5 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.01]**, Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.02]** and Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) **[EN0110012/APP/LVS/06.03.12.03]** A summary of the key findings are presented within this section. Although the records are not wholly specific to the Order Limits, they are considered indicative of the local avifauna and provide valuable context for the species likely to be present in the wider area surrounding the Order Limits, due to the dynamic nature of bird species.

Wetland bird survey (WeBS) data

Lower Derwent Valley SPA and Ramsar Site

- 12.8.18 Lower Derwent Ings is made up of 12 individual BTO count sectors, which are considered “Very High Priority” (WeBS count Sector location codes: 38326, 38325, 38324, 38320, 38319, 38309, 38308, 38307, 38306, 38304, 38303, 38305) (Ref 40). The 12 count sectors collectively cover the Lower Derwent Valley SPA and Ramsar. The Lower Derwent Ings data indicates that the SPA regularly supports nationally and internationally important numbers of wintering and passage waterbird species. Species exceeding national thresholds (based on five-year mean peak counts) include greylag goose, whooper swan, wigeon, pintail, shoveler, gadwall, teal, and lapwing. Teal also exceeds international thresholds.
- 12.8.19 Consideration of potential functional linkage between this designated site and the Order Limits and relevant survey buffers during the non-breeding and breeding bird surveys are also considered as part of the assessment will be addressed at a later stage of this chapter, following analysis of field survey data alongside the WeBS data presented below.

Table 12-11 BTO WeBS Data: national and international importance (annual peak counts for Lower Derwent Ings), including national and international percentage thresholds. Note that importance (Y/N) presented is provided by the BTO

Species	Annual- 5yr mean of peaks	Percent of national threshold	Percent of international threshold	Important Yes (Y) / No (N)
Greylag goose (British/Irish)	2642	189%	-	Y
Tundra bean goose	1	*2%	0%	N
Pink-footed Goose	911	18%	17%	-
White-fronted Goose (Europea- - albifrons)	16	*32%	0%	N
Mute swan	102	20%	20%	N
Bewick’s swan	2	*4%	1%	N
Whooper swan	179	112%	53%	Y
Shelduck	148	31%	5%	N
Shoveler	299	157%	40%	Y
Gadwall	334	108%	24%	Y
Wigeon	11316	251%	81%	Y
Mallard	1594	24%	8%	N
Pintail	739	370%	100%	Y
Teal	7287	169%	109%	Y
Pochard	110	48%	7%	N
Tufted duck	261	20%	3%	N
Scaup	2	*4%	0%	N
Goldeneye	27	14%	0%	N

Species	Annual- 5yr mean of peaks	Percent of national threshold	Percent of international threshold	Important Yes (Y) / No (N)
Smew	1	*2%	0%	N
Goosander	4	3%	0%	N
Little grebe	17	11%	0%	N
Great crested grebe	3	2%	0%	N
Grey heron	34	8%	1%	N
Great white egret	2	*4%	0%	N
Little egret	18	16%	2%	N
Cormorant	42	7%	4%	N
Moorhen	122	4%	1%	N
Coot	239	12%	2%	N
Crane	1	*2%	0%	N
Oystercatcher	26	1%	0%	N
Lapwing	6013	97%	30%	N
Golden plover	2901	73%	24%	N
Grey plover	3	1%	0%	N
Whimbrel	5	*10%	0%	N
Curlew	124	10%	2%	N
Bar-tailed Godwit	17	3%	1%	N
Black-tailed Godwit	256	66%	15%	N
Ruff	41	*82%	0%	N
Dunlin	392	12%	3%	N
Woodcock	4	0%	0%	N
Jack snipe	11	1%	0%	N
Snipe	999	10%	5%	N
Green sandpiper	1	*2%	0%	N
Redshank	38	4%	2%	N
Black-headed Gull	21480	98%	107%	N
Mediterranean gull	1	*2%	0%	N
Common gull	7820	112%	48%	Y
Great Black-backed Gull	122	16%	14%	N
Herring gull	258	4%	3%	N
Lesser Black-backed Gull	1	0%	0%	N

British Trust for Ornithology (WeBS), 2025 (Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2023/24 © copyright and database right 2024. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, with fieldwork conducted by volunteers and previous support from WWT).

Humber Estuary SPA and Ramsar Site

- 12.8.20 A total of 82 count sectors collectively cover the Humber Estuary SPA and Ramsar area.
- 12.8.21 According to the national and international importance annual peak count data collected for the Humber Estuary SPA and Ramsar, the following species are considered as international importance: brent goose, pink-footed goose,

shelduck, shoveler, gadwall, wigeon, teal, goldeneye, little egret, oystercatcher, avocet, lapwing, golden plover, grey plover, ringed plover, curlew, godwit *sp.*, curlew, knot, sanderling, dunlin, redshank, greenshank and sandwich tern.

Table 12-12 BTO WeBS data: national and international importance (annual peak counts for the Humber Estuary SPA), including national and international percentage thresholds. Note that importance (Y/N) presented is provided by the BTO

Species	Annual 5yr-mean of peaks	Percent of national threshold	Percent of international threshold	Important Yes (Y) / No (N)
Brent Goose (Dark-bellie– - bernicla)	3344	341%	159%	Y
Brent Goose (Svalbard Light-bellied)	2	*4%	2%	N
Greylag goose (British/Irish)	2569	184%		Y
Pink-footed Goose	16229	318%	301%	Y
White-fronted Goose (Europea– - albifrons)	27	*54%	0%	N
Mute swan	179	36%	36%	N
Whooper swan	126	79%	37%	N
Shelduck	11398	2425%	368%	Y
Shoveler	351	185%	47%	Y
Gadwall	334	108%	24%	Y
Wigeon	6452	143%	46%	Y
Mallard	1459	22%	7%	N
Pintail	178	89%	24%	N
Teal	9994	232%	149%	Y
Pochard	66	29%	4%	N
Tufted duck	277	21%	3%	N
Scaup	2	*4%	0%	N
Eider (except Shetland)	18	2%	0%	N
Velvet scoter	1	*2%	0%	N
Common scoter	290	22%	4%	N
Long-tailed Duck	1	1%	0%	N
Goldeneye	353	186%	3%	Y
Goosander	2	1%	0%	N
Red-breasted Merganser	1	1%	0%	N
Red-throated Diver	20	10%	1%	N

Species	Annual 5yr-mean of peaks	Percent of national threshold	Percent of international threshold	Important Yes (Y) / No (N)
Little grebe	78	52%	2%	N
Great crested grebe	17	10%	0%	N
Spoonbill	24	*48%	11%	N
Bittern	4	*8%	5%	N
Cattle egret	1	*2%	0%	N
Grey heron	42	9%	1%	N
Great white egret	5	*10%	1%	N
Little egret	226	205%	21%	Y
Cormorant	516	83%	53%	N
Moorhen	65	2%	0%	N
Coot	333	17%	2%	N
Crane	5	*10%	0%	N
Oystercatcher	7218	249%	88%	Y
Avocet	2198	2526%	234%	Y
Lapwing	11859	191%	59%	Y
Golden plover	21623	541%	180%	Y
Grey plover	2282	692%	114%	Y
Ringed plover	1291	307%	239%	Y
Whimbrel	38	*76%	0%	N
Curlew	2473	206%	33%	Y
Bar-tailed Godwit	1986	397%	132%	Y
Black-tailed Godwit	6836	1753%	402%	Y
Turnstone	276	69%	12%	N
Knot	20410	785%	613%	Y
Ruff	60	*120%	0%	Y
Sanderling	812	406%	41%	Y
Dunlin	22346	657%	168%	Y
Little stint	3	*6%	0%	N
Woodcock	3	0%	0%	N
Jack snipe	4	0%	0%	N
Snipe	126	1%	1%	N
Common sandpiper	64	*128%	0%	Y
Green sandpiper	19	*38%	0%	N
Redshank	2668	284%	111%	Y
Spotted redshank	22	*44%	3%	N

Species	Annual 5yr-mean of peaks	Percent of national threshold	Percent of international threshold	Important Yes (Y) / No (N)
Greenshank	63	*126%	2%	Y
Black-headed Gull	19299	88%	96%	N
Mediterranean gull	4	*8%	0%	N
Common gull	1666	24%	10%	N
Great Black-backed Gull	211	28%	25%	N
Herring gull	1123	15%	15%	N
Caspian gull	1	*2%	0%	N
Yellow-legged Gull	3	*6%	0%	N
Lesser Black-backed Gull	190	16%	4%	N
Sandwich tern	894	*1788%	53%	Y

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Casual records from North and East Yorkshire ecological data centre

- 12.8.22 A comprehensive dataset of bird species records was returned through the desk study (within 2.0 km of the Order Limits), covering the period from 2014 to 2024. This includes records of 69 bird species, many of which are of conservation concern and listed under one or more statutory or non-statutory conservation frameworks (e.g. UK BAP, Birds Directive Annexes, BoCC: Red and Amber Lists, Schedule 1 of the Wildlife and Countryside Act 1981, as amended) (Ref 1).
- 12.8.23 The desk study identified 69 bird species recorded within 2 km of the Order Limits between 2014 and 2024. These include a mix of resident, breeding, wintering, and migratory species.
- 12.8.24 A significant proportion of these are species of conservation concern, listed under various statutory and non-statutory designations. The breakdown is as follows:
- 1) 21 species appear on the Birds of Conservation Concern Red List (BoCC5);
 - 2) 26 species listed on the Birds of Conservation Concern Amber List (BoCC5);
 - 3) 21 species are listed as UK Biodiversity Action Plan (BAP) Priority Species;
 - 4) 21 species are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006; and
 - 5) Three species listed under Schedule 1 (Barn owl, red kite and woodlark).
- 12.8.25 It should be noted that bird species do not fall into discrete conservation categories; overlap is common, with many species simultaneously listed under

multiple designations such as Birds of Conservation Concern (BoCC), Section 41 (NERC Act), and Annex I of the Birds Directive (Ref 43).

- 12.8.26 While records are not all specific to the Order Limits, they are considered representative of the wider ornithological community and have informed the identification of key ornithological receptors for the purposes of this assessment. A full list of species and their conservation designations is provided in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.2] and Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03].

York Ornithological Club Report 2020 breeding records

- 12.8.27 The following records were extracted from the York Ornithological Club (YOC) annual bird reports. The extraction process was mainly focussed on ground nesting birds and Schedule 1 species.
- 12.8.28 It should be noted that the YOC records cover a wider area beyond the Order Limits and the Study Area; however, these data provide useful context on the regional importance of the wider landscape for breeding and non-breeding birds.
- 12.8.29 Records from the YOC cover the Order Limits where the SSSI impact risk zone for Lower Derwent Valley SPA and Ramsar site overlaps (Ref 41).
- 12.8.30 A summary of historical bird records in relation to the Lower Derwent SPA/Ramsar site can be found in Table 12-13 below.

Table 12-13 YOC 2018-2020 bird data

Species	Status / trend (2018/2020)	Breeding / key notes	Relevance to Order Limits
Skylark	Population increased by 60% from 2019	>100 territories; flocks up to 500 birds	Within Order Limits; habitat supports foraging & potential territories
Curlew	c.46 pairs (up from previous year)	Core breeding population in LDV	Outside of the Order Limits
Barn Owl	327 records (up from 2018–2019)	Regular breeding in LDV	Within the Order Limits
Whimbrel	Up to 76 roosting birds at Wheldrake Ings	Roosts outside Order Limits (confirmed by site manager)	Outside of the Order Limits
Hobby	Records increased (from 88 records to 144 records)	Widespread summer visitor	Potentially within and surrounding the Order Limits
Peregrine	Stable; 4 chicks at York Minster, ≥7 pylon pairs	10 young known fledged	Potentially within and surrounding the Order Limits

Species	Status / trend (2018/2020)	Breeding / key notes	Relevance to Order Limits
Lapwing	Up to 35 breeding sites; high nest failure	Predation and agriculture main causes	Potentially within the Order Limits
Kingfisher	Up to 8 pairs recorded as nesting	Confirmed breeding on River Ouse	Potentially within the water crossing areas within the Order Limits
Corn Bunting	33 singing males	Core population within Lower Derwent Valley area (farmlands)	Potentially within the Order Limits
Red Kite	≥4 pairs in LDV; breeding not confirmed	Probable breeding in southern LDV	Potentially within the Order Limits
Marsh Harrier	134 → 352 records; up to 9 individuals	1 confirmed nest (N. Duffield Ings, >5 km), 1 probable Wheldrake Ings	Outside of the Order Limits

YOC (2021)

BTO data report

12.8.31 The BTO Data Report collates historical (2007–2011) and contemporary (2021–2025) bird records from BBS, Bird Atlas and BirdTrack datasets covering all grid squares overlapping the Site. The data were analysed at local, regional and national scales to identify notable species and assess their distribution and abundance in relation to the Site. Species were classed as ‘Notable’ where their recorded range was at least twice the site’s proportional area, or ≥2% of the UK range at the national scale.

12.8.32 A total of 84 bird species were returned within the 2 km Study Area by the BTO Data Report (Appendix 12.2: Annex 5 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02]). These species include:

- 1) Seven species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (little ringed plover, barn owl, marsh harrier, red kite, redwing, fieldfare, and kingfisher– - note that redwing and fieldfare are not known to breed within the region;
- 2) Fourteen species on the Red list according to Birds of Conservation Concern 5 (Ref 24)- grey partridge, lapwing, woodcock, herring gull, willow tit, skylark, house martin, starling, mistle thrush, tree sparrow, house sparrow, greenfinch, linnet, and yellowhammer;
- 3) Twenty-four species on the Amber list, according to Birds of Conservation Concern 5 (Ref 24) greylag goose, pink-footed goose, gadwall, mallard, teal, stock dove, woodpigeon, moorhen, oystercatcher, snipe, black-headed gull, common gull, great black-backed gull, lesser black-backed gull, sparrowhawk, kestrel, rook, wren, song thrush, dunnock, grey wagtail, meadow pipit, bullfinch, and reed bunting; and

- 4) Two species on Annex 1 of the EU Birds Directive- golden plover and little egret.

Notable non-breeding birds

Table 12-14 Notable species (defined by the BTO) per geographical scale during the non-breeding period

Geographical scale	Notable category	No. of species	Species recorded
National (England)	Winter range	9	whooper swan, shelduck, pintail, ruff, goshawk, marsh harrier, ring-necked parakeet, willow tit, corn bunting
	Winter abundance	17	greylag goose, mute swan, whooper swan, wigeon, goosander, grey partridge, rock dove, woodpigeon, collared dove, waxwing, willow tit, tree sparrow, brambling, bullfinch, linnet, common/lesser redpoll, yellowhammer
Regional (Yorkshire & Humber)	Winter range	20	brent goose, Bewick's swan, Egyptian goose, shelduck, gadwall, pintail, ruddy duck, grey plover, ringed plover, bar-tailed godwit, ruff, dunlin, green sandpiper, yellow-legged gull, goshawk, marsh harrier, ring-necked parakeet, Cetti's warbler, rock pipit, corn bunting
	Winter abundance	14	greylag goose, mute swan, whooper swan, wigeon, grey partridge, woodpigeon, collared dove, cormorant, waxwing, willow tit, brambling, bullfinch, linnet, yellowhammer
County (North Yorkshire)	Winter range	27	brent goose, Bewick's swan, whooper swan, Egyptian goose, shelduck, gadwall, pintail, pochard, scaup, smew, ruddy duck, grey plover, ringed plover, bar-tailed godwit, ruff, dunlin, jack snipe, green sandpiper, glaucous gull, yellow-legged gull, goshawk, marsh harrier, ring-necked parakeet, Cetti's warbler, chiffchaff, rock pipit, corn bunting
	Winter abundance	22	greylag goose, mute swan, whooper swan, shelduck, wigeon, goosander, grey partridge, woodpigeon, collared dove, golden plover, green sandpiper, cormorant, barn owl, kingfisher, waxwing, willow tit, brambling, bullfinch, linnet, common/lesser redpoll, goldfinch, yellowhammer
Vice County (Mid-West Yorkshire)	Winter range	23	brent goose, Bewick's swan, Egyptian goose, gadwall, pintail, smew, ruddy duck, grey plover, ringed plover, bar-tailed godwit, ruff, dunlin, green sandpiper, glaucous gull, yellow-legged gull, goshawk, marsh harrier, ring-necked parakeet, willow tit, Cetti's warbler, chiffchaff, rock pipit, corn bunting

Geographical scale	Notable category	No. of species	Species recorded
	Winter abundance	24	greylag goose, mute swan, whooper swan, shelduck, wigeon, grey partridge, woodpigeon, collared dove, golden plover, green sandpiper, cormorant, barn owl, kingfisher, rook, waxwing, willow tit, skylark, tree sparrow, brambling, bullfinch, linnet, common/lesser redpoll, goldfinch, yellowhammer
Vice County (South-East Yorkshire)	Winter range	11	Egyptian goose, pintail, ruff, green sandpiper, yellow-legged gull, goshawk, red kite, Cetti's warbler, nuthatch, common/lesser redpoll, common crossbill
	Winter abundance	10	Canada goose, green woodpecker, jay, waxwing, willow tit, goldcrest, brambling, bullfinch, linnet, common/lesser redpoll

Notable breeding birds

12.8.33 According to the BTO data report, no breeding bird species within the three 10 km squares overlapping the Order Limits were considered 'notable' at the national scale when compared to the UK geographical scale.

Table 12-15 Notable species (defined by the BTO) per geographical scale during the non-breeding period

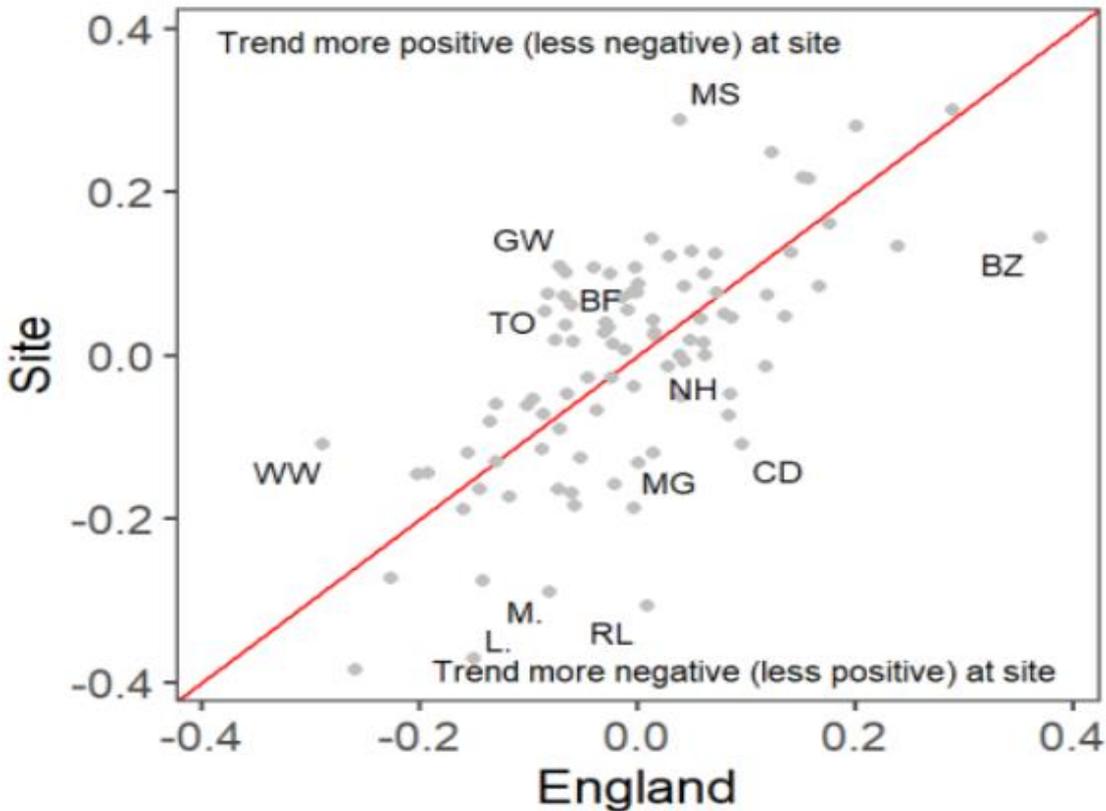
Geographical scale	Category	No. of species	Species recorded
National (England)	Breeding range	12	Garganey, wigeon, pintail, corncrake, black-necked grebe, avocet, curlew, redshank, willow tit, whinchat, tree sparrow, corn bunting
	Breeding abundance	11	Teal, grey partridge, collared dove, little ringed plover, snipe, barn owl, sedge warbler, tree sparrow, yellow wagtail, corn bunting, reed bunting
Regional (Yorkshire & the Humber)	Breeding range	12	Garganey, gadwall, wigeon, pintail, corncrake, black-necked grebe, avocet, common tern, little egret, willow tit, cetti's warbler, corn bunting
	Breeding abundance	10	Teal, grey partridge, collared dove, little ringed plover, grey heron, sedge warbler, grasshopper warbler, garden warbler, yellow wagtail, corn bunting
County (North Yorkshire)	Breeding range	15	Garganey, gadwall, wigeon, pintail, water rail, corncrake, black-necked grebe, avocet, common tern, little egret, willow tit, cetti's warbler, reed warbler, grasshopper warbler, corn bunting
	Breeding abundance	20	Mute swan, teal, grey partridge, stock dove, collared dove, little ringed plover, grey heron, barn

Geographical scale	Category	No. of species	Species recorded
			owl, kingfisher, green woodpecker, jay, sedge warbler, grasshopper warbler, garden warbler, lesser whitethroat, whitethroat, yellow wagtail, bullfinch, corn bunting, reed bunting
Vice County (Mid-West Yorkshire)	Breeding range	13	Garganey, gadwall, wigeon, pintail, corncrake, black-necked grebe, avocet, little egret, willow tit, cetti's warbler, grasshopper warbler, yellow wagtail, corn bunting
	Breeding abundance	22	Mute swan, shelduck, teal, grey partridge, stock dove, woodpigeon, collared dove, little ringed plover, redshank, barn owl, sedge warbler, grasshopper warbler, garden warbler, lesser whitethroat, whitethroat, tree sparrow, yellow wagtail, bullfinch, linnet, corn bunting, yellowhammer, reed bunting
Vice County (South-East Yorkshire)	Breeding range	21	Garganey, wigeon, pintail, corncrake, black-necked grebe, woodcock, black-headed gull, common tern, grey heron, little egret, goshawk, willow tit, cetti's warbler, grasshopper warbler, nuthatch, whinchat, grey wagtail, tree pipit, lesser redpoll, common crossbill, siskin
	Breeding abundance	11	Snipe, grey heron, green woodpecker, jay, willow warbler, chiffchaff, garden warbler, treecreeper, grey wagtail, tree pipit, bullfinch

Stability of species at geographical scales

- 12.8.34 Overall, the data returned from the BTO data report show a mixed pattern of change in overall relative abundance between and (or) near to the Order Limits in comparison to the rest of England (National Scale), with some species performing better locally and others declining more than in surrounding areas (see Plate 12-1). Wetland and woodland species such as mute swan, tawny owl, willow warbler and garden warbler generally fared well, suggesting favourable local habitat conditions. In contrast, farmland and aerial insectivorous bird species including lapwing, sand martin, house martin, and greenfinch declined more sharply, indicating continued pressures on these groups. Overall, the Order Limits and surrounding area (within 10 km) supports several species of conservation concern but reflects wider national trends of contrasting fortunes across different habitats.

Plate 12-1 BTO data report to present the trends of species at/near to the Order Limits in comparison to the national (England) scale



Source: BTO Data Report- Light Valley Solar

Abbreviations: (L.) – Lapwing, (M.) – Mistle thrush, (WW)- Willow warbler, (NH)- Nuthatch, (BZ)- Buzzard, (CD)- collared dove, (RL) – Red legged partridge, (TO)- Tawny owl, (MG)- Magpie, (GW) – Garden warbler, (BF)- Bullfinch, (MS) Mute swan.

Field surveys (non-breeding) – all methods combined for the Solar Development Sites

- 12.8.35 A summary of field survey results is provided below, with full information provided in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02]. The field survey results for non-breeding birds include the Order Limits for the Solar Development Sites, the Cable Route Corridor and associated Highway Improvement Areas (within the SSSI IRZ) and also account for maximum peak counts which were in adjacent fields to the Order Limits.
- 12.8.36 Note the results presented below include all methods undertaken during the non-breeding period (Vantage Point and transects during daytime and night time; illustrated in Figure 12.3: Ornithological Survey Areas [EN0110012/APP/LVS/06.02.12.03]) within the Solar Development Sites i.e. all grounded species recorded during diurnal, nocturnal and VP surveys, however flight activity surveys are summarised in isolation in paragraph 12.8.62. Figure 12.3 illustrates the walked transect routes and vantage point locations covered

during the non-breeding surveys. All detailed findings are presented and illustrated in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02]. It should also be noted that species recorded outside of the Order Limits were also merged for assessment purposes. i.e. peak counts recorded in adjacent fields.

- 12.8.37 Non-breeding bird surveys were completed between September 2024 and September 2025 in line with information detailed from Natural England in Annex C² (Ref 42) as per the NE DAS meeting held on 17 October 2024. However, highlighted to NE on 16 April, a deviation from the survey methodology outlined in Annex C was the omission of VP surveys along the Cable Route Corridor. Instead, two daytime walkovers and one nocturnal walkover were conducted each month (excluding April). This approach was adopted due to the scale of the area and the characteristics of the site and the nature of the works (temporary). The terrain is generally flat and views from potential VP locations were substantially restricted by hedgerows and field boundaries, making VP surveys impractical and unlikely to yield meaningful ornithological baseline results. Surveyors therefore adhered to field boundaries, scanning the area prior to entering each field to minimise disturbance and ensure adequate observational coverage. Surveys followed the ‘look-see’ (Ref 25) method.
- 12.8.38 Due to the substantial overlap between the species considered as part of the waterbird assemblage for both designated sites, the waterbird assemblage assessed in this Chapter covers species both Designated Sites as a collective.
- 12.8.39 All Solar Development Sites and their associated figures can be found in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02]. A detailed description is provided below:
- 12.8.40 Solar Development Site 1, located closest to the Lower Derwent Valley SPA/Ramsar, this Solar Development Site recorded eight qualifying species: gadwall, golden plover, greylag goose, lapwing, little egret, mallard, oystercatcher and teal.
- 12.8.41 The 1% 5-year monthly average (advocated by NE for use as an indicator of potential significance) was exceeded regularly by lapwing throughout the non-breeding period and golden plover showed exceedances limited to the core wintering period (November to February, inclusive). Mallard, which is also part of the Humber Estuary SPA and Ramsar waterbird assemblage also showed occasional exceedances during the passage period.
- 12.8.42 Solar Development Site 1 was identified as the stronghold for golden plover and lapwing within the Order Limits (of all the Solare Development Sites). Solar Development Site 1 meets the indicative criteria for FLL set by NE. However, it is

² Annex C- this guidance explains how to survey wintering and migratory birds on land that may functionally support the Humber Estuary or Lower Derwent Valley designated sites. It advises regular surveys during autumn and spring migration and throughout winter often over two years for sensitive or high-risk sites to understand how SPA bird species use the land. Surveys should follow best practice, cover all relevant habitats, and account for factors such as weather, tides, flooding, and dawn/dusk activity. Vantage point observations are generally preferred, and nocturnal surveys may be needed where waders or waterfowl use sites at night. The aim is to produce robust evidence on bird abundance, distribution, behaviour, and flight lines to assess potential impacts and identify appropriate mitigation.

important to note that species distribution across the Solar Development Site was highly variable and not predictable, with peak counts occurring in different locations between months and not being sustained across individual survey visits. Maximum peak counts therefore represent isolated observations rather than consistent patterns of site use. Within each month, species numbers fluctuated markedly between visits and did not persist at the levels reported. For example, although nine lapwing records were obtained during October, the mean number of birds recorded per visit was 58 (Table 3-2; Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02]), demonstrating that peak counts substantially overstate typical abundance and do not reflect regular or sustained use at maximum peak counts recorded within Solar Development Site 1.

- 12.8.43 Outside of the Solar Development Site 1 Order Limits in adjacent fields, counts of lapwing (peak count 212), pink-footed goose (1), golden plover (5) were recorded. The peak count of 212 was brought into the assessment due to its significance.
- 12.8.44 For Solar Development Site 2, diversity beyond gull species was lower in comparison to other Solar Development Sites. Qualifying species recorded included golden plover (four occasions; < 1%) and lapwing (two occasions 1% exceedance during passage), however numbers remained relatively low.
- 12.8.45 Solar Development Site 2 in isolation does not meet the broad indicative criteria of FLL set by NE; however, the small numbers of birds recorded do contribute to the total numbers recorded across the Order Limits (and for which mitigation is based-upon).
- 12.8.46 No other species were recorded outside of the Order Limits for Solar Development Site 2.
- 12.8.47 For Solar Development Site 3, one qualifying species of the Lower Derwent Valley SPA/Ramsar (teal; <1%; one occasion) was recorded. Shared waterbird assemblage of the Lower Derwent Valley and Humber Estuary species of included very low numbers little egret, and mallard. Overall site use was very low and inconsistent.
- 12.8.48 Solar Development Site 3 in isolation does not meet the broad indicative criteria of FLL set by NE; however, the small numbers of birds recorded do contribute to the total numbers recorded across the Order Limits (and for which mitigation is based-upon).
- 12.8.49 One peregrine falcon was recorded outside of the Solar Development Site 3 Order Limits.
- 12.8.50 For Solar Development Site 4, a total of 12 species were recorded which were considered as qualifying features or part of the wider waterbird assemblage for Lower Derwent Valley and the Humber Estuary were recorded. Four qualifying species of the Lower Derwent Valley SPA were recorded: golden plover (two occasions; peak count 1), teal (four occasions recorded; one occasion of 1% threshold exceedance) wigeon (one occasion; peak of 10; <1%).

- 12.8.51 The wider waterbird assemblage included greylag goose which showed regular monthly exceedances of the 1% threshold for both designated sites, and 1-2 occasional 1% exceedances were recorded for both gadwall and mallard.
- 12.8.52 Solar Development Site 4 is considered to meet the broad indicative criteria for FLL set by NE.
- 12.8.53 Outside of the Solar Development Site 4 Order Limits, large aggregates of wigeon (100), greylag goose (400), teal (100), shoveler (10), whooper swan (9) and smaller counts of mallard, lapwing and golden plover were recorded in the land surrounding the River Aire. This area was included at Scoping and PEIR stage but is now excluded from the Order Limits Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) **[EN0110012/APP/LVS/06.02.03.02]**.
- 12.8.54 For Solar Development Site 6/7, this showed very limited bird activity, with low counts across nearly all species. The highest peak count was six individuals (mallard) and 10 greylag geese. One Lower Derwent Valley SPA/Ramsar species (teal; peak count 3) was recorded.
- 12.8.55 Solar Development Site 6/7 in isolation does not meet the broad indicative criteria of FLL set by NE; however, the small numbers of birds recorded do contribute to the total numbers recorded across the Order Limits (and for which mitigation is based-upon).
- 12.8.56 One count (10) greylag geese were recorded on one occasion outside of the Solar Development 6/7 Order Limits.
- 12.8.57 For Solar Development Site 8, sporadic utilisation by Lower Derwent Valley SPA/Ramsar qualifying species was recorded, including golden plover (two occasions of exceeding the 1% monthly threshold) wigeon (peak count 16; <1%) and teal (peak count 2; <1%). Lapwing exceeded the 1% monthly threshold on two occasions during passage only.
- 12.8.58 Greylag were recorded to exceed the 1% monthly threshold for both Lower Derwent Valley and the Humber Estuary sites across winter and spring passage.
- 12.8.59 The majority of species appeared to only utilise the area during mid-winter to early spring.
- 12.8.60 Solar Development Site 8 is considered to meet the broad indicative criteria for FLL set by NE.
- 12.8.61 Outside of the Solar Development Site 8 Order Limits, one peak count of greylag geese were recorded (45), and lapwing (3) on one occasion.

Flight activity surveys

- 12.8.62 Flight activity across the Solar Development Sites and relevant 300 m survey buffer was generally low to moderate, dominated by short-duration, low-level movements of wintering waders and wildfowl, particularly lapwing, golden plover, greylag goose, and mallard. Results of flight activity surveys were consistent with

walk-over surveys and did not identify any additional features or regularly used migration flight corridors across the Order Limits.

- 12.8.63 The highest levels of activity were recorded at Solar Development Sites 1 and 4, primarily between October and February, with peak counts including flocks of up to 226 lapwing, 172 golden plover, and 170 greylag geese. Occasional larger movements of whooper swan (up to 100 birds) and pink-footed goose (up to 107 birds) were recorded during autumn and spring passage periods, although numbers were consistently low and no repeated flight activity was recorded i.e. to and from foraging/roost sites.
- 12.8.64 Flight activity at the remaining sites (Solar Development Site 2, 3, 6/7, and 8) was infrequent and non-directional, typically involving isolated or small groups of common farmland and wetland species such as black-headed gull, teal, curlew, and little egret. Raptors including red kite, marsh harrier, peregrine, merlin, and barn owl were occasionally recorded, generally as single birds on brief flights.
- 12.8.65 Overall, the flight activity data indicate that movements across the Order Limits are largely opportunistic and widely dispersed, reflecting local foraging and roosting exchanges within the wider agricultural landscape, with no evidence of sustained or directional flight corridors between designated sites or wider region.

Table 12-16 Maximum peak counts per species recorded within the Solar Development Sites between September 2024 and September 2025. Note that number in bold denotes the 1% threshold exceedance to assess for FLL associated with either Lower Derwent Valley SPA and (or) the Humber Estuary (SPA) (*denotes unique to the Humber Estuary SPA and Ramsar site)

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
Solar Development Site 1											
Gadwall	5				2						
Lower Derwent Valley SPA (LDV) / Humber Estuary (HE) 5-year monthly mean 1%	No count (NC) / 4.46				3.98 / 3.28						
Golden Plover		2	9		112	42	1				
LDV/HE 1%		2.01 / 78.31	21.3 / 139.04		17.6 / 98.58	40.3 / 132.49	1.09 / 35				
Greylag Goose								12	4		
LDV/HE 1%								2.34 / 4.12	NC / 7.6		
Lapwing	106	234	126	32	212	128	12	6	6		
LDV/HE 1%	NC / 4.97	12.21 / 28.69	44.8 / 101.61	41.3 / 128.77	38.38 / 147.28	74.17 / 75.55	8.51 / 4.26	2.08 / 0.94	NC / 0.87		
Little Egret*				1		1					
LDV/HE 1%				0.03 / 0.71		0.13 / 1.18					
Mallard		11	9		6	6	16	6	10		

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
LDV/HE 1%		2.8 / 10.96	14.37 / 11.5		22.47 / 12.68	9.76 / 10.5	8.66 / 8.78	3.77 / 4.64	NC / 4.67		
Oystercatcher*							4	2	2		
LDV/HE 1%							0.34 / 46.88	0.21 / 32.19	NC / 18.28		
Teal			12	2	9	13	4				
LDV/HE 1%			38.58 / 48.86	64.58 / 49.13	92.42 / 67.92	77.13 / 57.48	82.34 / 26.98				
Solar Development Site 2											
Curlew*				2							
LDV/HE 1%				0.21 / 21.04							
Golden Plover	5		1		15			9			
LDV/HE 1%	NC / 42.5		21.3 / 139.04		17.6 / 98.58			0 / 4.49			
Lapwing				2	2	18	19	2	2		
LDV/HE 1%				41.3 / 128.77	38.38 / 147.28	74.17 / 75.55	8.51 / 4.26	2.08 / 0.94			
Little Egret*	1	1		1		1					
LDV/HE 1%	NC / 3.09	2.01 / 2.41		0.03 / 0.71		0.13 / 1.18					
Mallard	5		2	3	2		2	2	1		

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
LDV/HE 1%	NC / 14.59		14.37 / 11.5	13.65 / 13.27	22.47 / 12.68		8.66 / 8.78	3.77 / 4.64			
Solar Development Site 3											
Little Egret*			2			1					
LDV/HE 1%			0.01 / 1.14			0.13 / 1.18					
Mallard					2			6	5		
LDV/HE 1%					22.47 / 12.68			3.77 / 4.64	NC / 4.67		
Teal					2						
LDV/HE 1%					92.42 / 67.92						
Solar Development Site 4											
Curlew*							1	1			
LDV/HE 1%							1.78 / 20.11	1.27 / 8.97			
Gadwall								2	1		
LDV/HE 1%								2.31 / 1.28	NC / 1.64		
Golden Plover	1	1									
LDV/HE 1%	NC / 45.2	2.01/78.31									
Greylag Goose	17		157		32	227	2	25	8	4	

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
LDV/HE 1%	0 / 16.7		32.44 / 16.18		22.71 / 11.92	8.17 / 8.14	4.76 / 5.22	2.34 / 4.12	NC / 7.69	NC / 22.24	
Lapwing		2	74	19	50	5	4	6	9	35	
LDV/HE 1%		12.21 / 28.69	44.8 / 101.61	41.3 / 128.77	38.38 / 147.28	74.17 / 75.55	8.51 / 4.26	2.08 / 0.94	NC / 0.87	NC / 6.05	
Little Egret*	1		1	2	1	1			1		
LDV/HE 1%	NC / 3.09		0.01 / 1.14	0.03 / 0.71	0.09 / 0.99	0.13 / 1.18			NC / 0.93		
Mallard	7			7		9	5	14	3		
LDV/HE 1%	NC / 14.59			13.65 / 13.27		9.76 / 10.5	8.66 / 8.78	3.77 / 4.64	NC / 4.67		
Oystercatcher*								4	1		
LDV/HE 1%								0.21 / 32.19	NC / 18.28		
Pink-footed Goose*			2								
LDV/HE 1%			17.35 / 113.62								
Shelduck					2						
LDV/HE 1%					1.32 /						
Teal		11		14		8	40				
LDV/HE 1%		24.78 / 99.94		64.58 / 49.13		77.17 / 57.48	82.34 / 26.98				

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
Wigeon						10					
LDV/HE 1%						91.52 / 59.6					
Solar Development Site 6/7											
Greylag Goose								10			
LDV/HE 1%								2.34 / 4.12			
Lapwing					2			2			
LDV/HE 1%					38.38 / 147.28			2.08 / 0.94			
Little Egret*			1		1		1				
LDV/HE 1%			0.01 / 1.14		0.09 / 0.99		0.13 / 0.75				
Mallard					4	4	2	6	3		2
LDV/HE 1%					22.47 / 12.68	9.76 / 10.5	8.66 / 8.78	3.77 / 4.64	NC / 4.67		NC / 14.59
Teal						1	3				
LDV/HE 1%						77.17 / 57.48	8.66 / 8.78				
Solar Development Site 8											
Curlew*						4	1	1			
LDV/HE 1%						0.7 / 24.37	1.78 / 20.11	1.27 / 8.97			

Species	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Aug-25	Sep-25
Golden Plover				30	45	47					
LDV/HE 1%				42 / 216.23	17.6 / 98.58	40.3 / 132.49					
Greylag Goose				27		40	14	16			
LDV/HE 1%				30.26 / 15.13		8.17 / 8.14	4.76 / 5.2	2.34 / 4.12			
Lapwing							9	2			
LDV/HE 1%							8.51 / 4.26	2.08 / 0.94			
Mallard				11		24	8	2			
LDV/HE 1%				13.65 / 13.27		9.76 / 10.5	8.66 / 8.78	3.77 / 4.64			
Oystercatcher*							11	1			
LDV/HE 1%							0.34 / 46.88	0.21 / 32.19			
Redshank*							2				
LDV/HE 1%											
Teal				4		1	2				
LDV/HE 1%				64.58 / 49.13		77.17 / 57.48	82.34 / 26.98				
Wigeon						16					
LDV/HE 1%						91.52 / 59.6					

Table 12-17 Overall maximum peak counts across the Order Limits (Solar Development Sites only)

Species	Sep 2024	Oct-24	Nov-24	Dec 2024	Jan 2025	Feb 2025	Mar 2025	Apr-25	May-25	Aug-25	Sep-25
Lapwing	106	243	126	32	212	128	19	6	9	35	0
Greylag goose	17	0	157	27	32	227	14	25	8	4	0
Mallard	7	11	9	11	6	24	16	14	10	0	2
Gadwall	5	0	0	0	2	0	0	2	1	0	0
Golden plover	5	2	9	30	112	47	1	9	0	0	0
Little egret	1	1	2	2	1	1	1	0	1	0	0
Teal	0	11	12	14	9	13	40	0	0	0	0
Pink-footed Goose	0	0	2	0	0	0	0	0	0	0	0
Mute swan	0	0	1	0	0	0	0	0	0	0	0
Shelduck	0	0	0	0	2	0	0	0	0	0	0
Curlew	0	0	0	0	0	4	1	1	0	0	0
Wigeon	0	0	0	0	0	16	0	0	0	0	0
Redshank	0	0	0	0	0	0	2	0	0	0	0
Oystercatcher	0	0	0	0	0	0	11	1	2	0	0

Cable Route Corridor

- 12.8.66 The data presented below is of the Cable Route Corridor which falls within the SSSI Impact Risk zone and the relevant survey buffer of 300 m (Figure 12.2: SSSI Impact Risk Zone – Lower Derwent Valley (ES Volume 2) [EN0110012/APP/LVS/06.02.12.02] and Figure 12.3: Ornithological Survey Areas (ES Volume 2) [EN0110012/APP/LVS/06.02.12.03]). The Cable Route Corridor was split across 8 maps which are presented in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02].

Spring passage

- 12.8.67 Bird activity during the spring passage period was low across the Cable Route Corridor, with sufficient data collected only in April 2025 to allow comparison with Lower Derwent Valley SPA WeBS thresholds. Lapwing was the only qualifying species to exceed the 1 % population threshold (LDV and Humber Estuary SPAs); however, this occurred during the transitional period between wintering and breeding seasons and is not considered indicative of Cable Route Corridor dependence. Greylag goose (peak 19 birds) and little egret (peak 2 birds) each briefly exceeded their respective Humber Estuary SPA 1 % thresholds in May, reflecting short-term passage use rather than sustained occupancy.

Table 12-18 Qualifying species and bird species part of the wider waterbird assemblage peak counts recorded within the Cable Route Corridor, during spring passage

Species	April								May							
	Area number															
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Gadwall							1									
Greylag Goose									19							
									HE- 7.69							
Lapwing		6		1		12		3		2		2		20		4
		LDV- 2.08		LDV- 2.08		LDV- 2.08		LDV- 2.08		HE- 0.87		HE- 0.87		HE- 0.87		HE- 0.87
		HE- 0.94		HE- 0.94		HE- 0.94		HE- 0.94								
Little Egret*				2								1				
				HE- 1.2								HE-0.93				
Mallard	2	2		2					1	2		2		1		2
Oystercatcher	1															

Autumn passage

- 12.8.68 Bird activity fluctuated (higher counts of individuals during August and September and drop in numbers during October) during the late summer period, particularly for lapwing and golden plover, which were the most numerous and widely distributed qualifying species (1–68 individuals). These species exhibited foraging and roosting behaviour across several isolated fields, notably Selby Dam (field number CR479), east of Ling Wood (CR216), south of Garmin Carr Lane (CR169), north of Moor Lane (CR91, CR87 and CR85), Skipwith Holmes (CR61). However, it is important to note that the peak counts recorded during late summer represent isolated peak counts. This is supported by the minimum and average data, with golden plover averages of 26.0 in August, 25.6 in September and 12.1 in October (range 1–68), and lapwing averages of 10.1 in August, 4.1 in September and 1.7 in October (range 1–60). These figures indicate high variability and short-term use rather than sustained aggregation. See Annex 4b within Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02].
- 12.8.69 All field numbers are presented in Figure 2.3 Field Numbering Plan (ES Volume 2) [EN0110012/APP/LVS/06.02.02.03]. Other species, including gadwall, mallard, teal, ruff, and occasional oystercatcher, were recorded in lower numbers. Gadwall exceeded the 1 % Humber Estuary SPA threshold in August 2025 (3.6 %), based on four individuals, again indicating sporadic use rather than functional reliance on the surveyed land.

Table 12-19 Qualifying species and bird species part of the wider waterbird assemblage peak counts recorded within the Cable Route Corridor, during Autumn passage

Species	August								September							
	Area Number															
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Gadwall				4 HE-3.61												
Golden Plover					50					68 HE-45.2	59 HE-45.2		4			
Lapwing	11 HE-6.05	1 HE-6.05	60 HE-6.05	60 HE-6.05	10 HE-6.05		3	13 HE-6.05				8 HE-4.97	4	7 HE-4.97		3
Mallard		4		5	21		2				2	3	2		5	

					HE-10.85												
Ruff												1	1				
Teal												9					
October	Area number																
Species	1	2	3	4	5	6	7	8									
Golden Plover		6 LDV- 2.01 HE- 78.3	26 LDV- 2.01 HE- 78.3	1 LDV- 2.01 HE- 78.3	44 LDV- 2.01 HE- 78.3												
Green Sandpiper		1 LDV- 0.03 HE-0.01		2 LDV- 0.03 HE-0.01	1 LDV- 0.03 HE-0.01												
Lapwing			1 LDV- 12.1 HE-28.69	3 LDV- 12.1 HE-28.69	1 LDV- 12.1 HE-28.69												
Little Egret				3 LDV-0 HE-2.4													
Mallard				5 LDV- 2.8 HE-11	4 LDV- 2.8 HE-11			25 LDV- 2.8 HE-11									
Mute Swan				1 LDV- 0.61 HE- 1.7													
Teal				2 LDV- 24.78 HE- 99.94	6 LDV- 24.78 HE- 99.94			60 LDV- 24.78 HE- 99.94									

Wigeon				10 LDV-18.68 HE-27.72				
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Other species of note

- 12.8.70 The following Annex 1 (Ref 43) and Schedule 1 species were recorded within the Study Area during the non-breeding period:
- 1) Barn owl – Solar Development Sites 1, 4 and 6/7 (11 records);
 - 2) Cattle egret- Solar Development Site 4 (one record);
 - 3) Kingfisher- Solar Development Sites 4 and 5 (3 records);
 - 4) Little ringed plover- Solar Development Sites 4 and 8 (3 records);
 - 5) Long-eared owl- Solar Development Site 1 (1 record);
 - 6) Marsh harrier- Solar Development Site 4 (1 record);
 - 7) Merlin- Solar Development Site 2 (2 records);
 - 8) Peregrine- Solar Development Site 4 (4 records);
 - 9) Quail – Solar Development Site 4 (1 record);
 - 10) Red kite- Solar Development Sites 1, 2, 4, 6/7 (21 records); and
 - 11) Short-eared owl- Solar Development Sites 4 and 6 (2 records)
- 12.8.71 Barn owl and red kite were regularly observed out of all Schedule 1 and Annex 1 species (resident to the area during the non-breeding period). Other species recorded were considered opportunistic and passing through the area.

Breeding birds

- 12.8.72 Below are the results from the breeding bird surveys undertaken within the Solar Development Sites, as well as Breeding Bird Habitat Suitability surveys which were undertaken across all of the Solar Development Sites and the Cable Route Corridor. All results and their associated figures are located in Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03]. Note that the surveys completed within the Cable Route Corridor did not follow the same transects as the non-breeding bird surveys. The surveys were a systematic walkover observing all features and potential suitable habitats which support Schedule 1 birds.

Solar Development Sites

- 12.8.73 Breeding bird surveys were undertaken across Solar Development Sites 1-4 during 2024, with no qualifying breeding species recorded for the Humber Estuary SPA/Ramsar or Lower Derwent Valley SPA/Ramsar designations. However, a total of 12 bird species listed as Birds of Conservation Concern 5 (BoCC) (Ref 24) were recorded as probable or confirmed breeders across the survey area.
- 12.8.74 At Solar Development Site 1, eight BoCC species were recorded, including confirmed breeding of lapwing (Red List), and probable breeding of skylark (Red List), yellowhammer (Red List), and five Amber List species. Solar Development Site 2 supported six BoCC species, including skylark and yellowhammer (Red

List), with additional Amber Listed species such as reed bunting and willow warbler recorded as probable breeders.

- 12.8.75 Solar Development Site 3 supported four BoCC species, with yellowhammer (Red List) and three Amber List species showing probable breeding behaviour. Solar Development Site 4 supported the highest diversity, with nine BoCC species recorded. Confirmed breeding included greylag goose (Amber List) and skylark (Red List), while probable breeders included corn bunting, yellow wagtail, lapwing, and yellowhammer (all Red List), along with several Amber List species.
- 12.8.76 A number of additional BoCC Red and Amber List species were noted across the sites but did not show any evidence of breeding behaviour. These include curlew, kestrel, house sparrow, linnet and swift. Greylag geese were confirmed as breeding adjacent to Solar Development Site 4 (4 pairs).
- 12.8.77 Solar Development 6/7 recorded seven red BoCC species and 11 Amber BoCC species. Solar Development Site 6/7 supported six skylark territories, two reed bunting territories, one mallard and one meadow pipit territory. One barn owl was also recorded flying to a box within the Survey Area; however breeding was not confirmed.
- 12.8.78 Solar Development Site 8 recorded a total of seven Red BoCC species and 10 Amber BoCC species and supported 10 skylark territories, two reed bunting territories, one grey partridge, yellow wagtail and corn bunting territory.
- 12.8.79 Overall, a total of 47 territories were recorded across the Study Area (limited to the Solar Development Sites; Table 12-12):
- 1) 32 skylark territories (potentially 27 territories due to the exclusion of areas as part of the design evolution; Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) **[EN0110012/APP/LVS/06.02.03.02]**);
 - 2) Three lapwing territories (potentially two territories due to the exclusion of areas as part of the design evolution; Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) **[EN0110012/APP/LVS/06.02.03.02]**);
 - 3) Three corn bunting territories;
 - 4) Two yellow wagtail territories;
 - 5) Four reed bunting territories;
 - 6) One mallard territory;
 - 7) One meadow pipit territory; and
 - 8) One grey partridge territory.

Table 12-12 Ground nesting bird species recorded within the Solar Development Sites 1-4 and 6/7 and 8

Site	Ground nesting species	Number of territories
Solar Development Site 1	Skylark	5
	Lapwing	2
Solar Development Site 2	Skylark	2
Solar Development Site 3	-	-
Solar Development Site 4	Skylark	9
	Lapwing	1
	Corn bunting	2
	Greylag goose	Unknown
	Yellow wagtail	1
Solar Development Site 6/7	Skylark	6
	Reed bunting	2
	Mallard	1
	Meadow pipit	1
Solar Development Site 8	Skylark	10
	Reed bunting	2
	Grey partridge	1
	Yellow wagtail	1
	Corn bunting	1

Cable Route Corridor – suitable breeding bird habitat / feature assessment

- 12.8.80 Field surveys were undertaken to identify features which could support Priority breeding species (such as those listed on Schedule 1 of the Wildlife and Countryside Act 1981), this was determined through the desk-study process. Examples may include trees or buildings potentially suitable for nesting barn owls, or mature isolated trees that might provide a nesting location for scarce raptors such as hobby.
- 12.8.81 Full survey methods are detailed in Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03].
- 12.8.82 A total of six bird species associated with potential breeding features were recorded along the Cable Route Corridor and the Solar Development Sites. The number of features, their locations and corresponding area references are provided in Table 12-20 below and illustrated spatially on Figure 6 within the Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03], which maps all identified suitable breeding bird features and locations along the Cable Route Corridor and the Solar

Development Sites. The Entire Order Limits of the Solar Development Sites and the Cable Route Corridor is split into 15 sections for ease of reference (See Figures 7-21 in Appendix 12.3: Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03]).

12.8.83 The data collected correspond closely with both the field survey results and desk study records, confirming consistency in the distribution and presence of breeding bird species and suitable breeding features along the Cable Route Corridor and the wider landscape.

Table 12-20 The number of features present throughout the Cable Route Corridor which could support Schedule 1 species.

Species	Number of Suitable	Typical Feature Description	Breeding Status in Region ³	Areas present and the corresponding map reference (Figures 6-20 within Appendix 12.3 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03])
Barn Owl	36 sites	Barns/Buildings, dead trees, and owl boxes	Resident breeder, common. Total of 15 records within 2 km of the Order Limits the NYECD. Listed as a Probable breeder on the BTO Data Report.	Present in all areas surveyed within the Solar Development Sites and Cable Route Corridor survey area
Red Kite	36 sites	Large hedgerow trees and small copses	Resident in the southern part of the North Yorkshire recording area with 0-4 pairs recorded as possible breeding within the Lower Derwent Valley area (2021); scarce elsewhere. Total of 5 records within 2 km of the Order Limits the NYECD. Listed as Present on the BTO Data Report.	1, 2 (Solar Development Site 1) 3, 6 of the Cable Route Corridor 9 (Solar Development Site 8) 11 (Solar Development Site 6/7) 14 (Solar Development Site 4)

³ York Ornithological Club, 2021. York Ornithological Club Report 2020. [pdf] York: York Ornithological Club. Available at: <https://yorkbirding.org.uk/files/YOC%20Report%202020.pdf> [Accessed 26 Oct. 2025].

Species	Number of Suitable	Typical Feature Description	Breeding Status in Region ³	Areas present and the corresponding map reference (Figures 6-20 within Appendix 12.3 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03])
Hobby	58 sites	Mature trees with corvid nests near open farmland	Passage migrant; scarce and localised breeder- estimation of 5 pairs in 2021. Total of 4 records within 2 km of the Order Limits the NYECD.	Present in all areas within the Solar Development Sites and Cable Route Corridor survey area
Peregrine	23 sites	Electricity pylons and tall concrete structures	Scarce breeder plus a breeding pair at York Minster and 7 pairs recorded on pylons in the Lower Derwent Valley area (2021). Total of 4 records within 2 km of the Order Limits the NYECD.	4, 12 of the Cable Route Corridor 11 (Solar Development Site 6/73 (Solar Development Site 3) 14 and 15 (Solar Development Site 4)
Common Crossbill	17 sites	Mature coniferous woodland blocks	Casual breeder and passage migrant. Total of 3 records within 2 km of the Order Limits the NYECD. The latest record was in 2002.	1 and 2 (Solar Development Site 1) 3 and 6 of the Cable Route Corridor 9 (Solar Development Site 8) 11 (Solar Development Site 6/7) 14 (Solar Development Site 4)
Kingfisher	3 sites	Riverbanks and ditches with exposed soil	Resident breeder, common. Breeding confirmed in Wheldrake Ings and river Ouse (close to Naburn bridge). Total of 5 records within 2 km of the Order Limits the NYECD. Listed as Possible breeder on the BTO Data Report.	5 (River Ouse) of the Cable Route Corridor 7 (Thorpe Beck) of the Cable Route Corridor and 15 (River Aire)- Solar Development Site 4 (outside of the Order Limits)

Future baseline

- 12.8.84 This section considers changes to the baseline conditions, described above, that might occur in the absence of the Proposed Development and during the time period over which the Proposed Development would be in place for up to 60 years. The future baseline scenarios are set out in Chapter 4: Approach to EIA (ES Volume 1) **[EN0110012/APP/LVS/06.01.04]**.
- 12.8.85 The potential changes in the future baseline are detailed and discussed below.

Designated Sites

- 12.8.86 Farming practices and land management in the wider landscape may evolve over time in response to changing policies, economics, or climate adaptation measures (see Chapter 7: Climate Change Resilience (ES Volume 1) **[EN0110012/APP/LVS/06.01.07]**). However, such changes are not anticipated to materially affect the ecological condition or conservation status of the statutory designated sites that have been identified within this Chapter. These sites are protected under national and international legislation and are subject to regulatory oversight to ensure their integrity is maintained as per the conservation objectives listed in paragraph 12.12.3.
- 12.8.87 Therefore, the future baseline for designated sites is assumed to remain broadly consistent for the purposes of this assessment.

Wild bird habitats (terrestrial and riparian)

- 12.8.88 In the absence of the Proposed Development, the baseline distribution and abundance of bird species within the Order Limits and surrounding area are expected to remain broadly similar in the short term. However, the continued use of intensive arable farming systems may lead to further degradation of soil quality and loss of field margins or structural vegetation, reducing the availability and quality of nesting and foraging habitats for farmland species assemblages and/or foraging resource for non-breeding species. Changes in farming practices, or market demands, may fundamentally change crop types grown or farming methods used, leading to habitat changes over time.
- 12.8.89 As identified in Chapter 7: Climate Change Resilience (ES Volume 1) **[EN0110012/APP/LVS/06.01.07]** future projections of warmer winters (2050 to 2080) may alter overwinter survival rates and migration patterns of non-breeding birds, particularly short-distance migrants and overwintering species such as thrushes, wildfowl, and waders. Earlier onset of spring conditions could lead to phenological differences between breeding activity and peak invertebrate abundance, potentially reducing breeding success for insectivorous species such as skylark or yellowhammer (Ref 44). Consequently, drought, flooding, and temperature fluctuations could affect invertebrate prey populations/availability, disrupt breeding success and (or) breeding output/success (i.e. heat stress on young), or alter the suitability of habitats for certain species making them less preferable, such as the drying of ponds.

12.8.90 Although no substantial changes in overall species composition are anticipated within the short-term, uncertainty remains for ground-nesting and farmland bird species, which continue to be vulnerable to agricultural intensification and habitat loss. According to the British Trust for Ornithology (BTO, 2024), the UK Farmland Bird Indicator has declined by 62% since 1970, with a further 11% reduction between 2019 and 2024, indicating that population declines in these species are ongoing despite earlier stabilisation efforts (Ref 55), which species reflect those recorded during the baseline surveys.

Avifauna (breeding and non-breeding)

12.8.91 In the absence of the Proposed Development, the distribution and abundance of breeding and non-breeding bird species across the Order Limits and surrounding landscape are expected to remain broadly consistent in the short term. However, several longer-term environmental and land use pressures may influence baseline conditions for avifauna over time. These include the continued use of intensive agricultural practices and daily cropping rotations as shown in Plate 8-1 of the sHRA [EN0110012/APP/LVS/05.11] (particularly root/legume and oilseed rape crops), which may reduce habitat quality through loss of structural vegetation, nest loss through early lifting and reploughing, simplification of land cover, and depletion of invertebrate prey resources. Potential changes to agricultural policies may also drive shifts in land management, although the outcomes for bird populations remain uncertain.

12.8.92 For non-breeding and breeding bird assemblages, future conditions may be influenced by broad climatic shifts, which may further affect bird species by altering the timing and availability of food resources, increasing the frequency of extreme weather events, and reducing the suitability of key breeding or foraging habitats. In parallel, recreational use of the countryside, particularly through increased access or public rights of way (PRoW), could result in localised disturbance to sensitive species, especially during the breeding and non-breeding season (within FLL). Other influencing factors may include natural habitat succession, predator pressure, and landscape-scale development pressures, all of which have the potential to affect and (or) habitat structure, connectivity, and ecological function. In addition, there is uncertainty with regards to avian flu and how this may affect bird species in the future, particularly seabirds, waterbirds such as gulls, which has shown a contribution to extensive declines by over 10% (Ref 45), which will have negative impacts on overall breeding and non-breeding populations. This adds further unpredictability to future baseline conditions.

12.8.93 For non-breeding assemblages, changing winter conditions, including warmer temperatures and reduced frost or snow cover, may shift the geographic range of overwintering species which we are subtly beginning to see with golden plover (Ref 56), whereby warmer changes are causing redistribution of waterbirds within and beyond the UK. This could alter the relative importance of local FLL used by qualifying species of nearby SPAs.

- 12.8.94 Wetland birds in particular are experiencing on-going declines as cited in the annual BTO WeBS reports (Ref 46 and Ref 47). Most wintering waterbirds have increased by 90% in the long-term but have begun to show sharp declines of up to 9% since 2000. Farmland bird species assemblages have declined by 61% in the long-term and up to 9% in the short term (Ref 48).
- 12.8.95 Given these interacting pressures and the current ornithological baseline, the future trajectory for avifaunal assemblages remains uncertain and is likely to vary by species group and habitat type. Continued monitoring of phenological and distributional shifts through national datasets (e.g. BTO WeBS, Breeding Bird Survey) will be important to refine the long-term baseline and assess resilience of avifaunal communities to climatic change.
- 12.8.96 Whilst such potential for change in land management and/or avifauna is acknowledged, it cannot be accurately predicted. As such, the assessment presented in this chapter assumes the broad continuation of current conditions over the operational lifetime of the Proposed Development as the most reasonable basis for assessing potential effects of the Proposed Development on breeding and non-breeding birds.

12.9 Embedded mitigation and enhancement measures

Overview

- 12.9.1 Embedded and good practice mitigation relevant to all ecological receptors, including birds, is set out in Chapter 6: Biodiversity (ES Volume 1) **[EN0110012/APP/LVS/06.01.06]** (Section 6.8). The measures summarised below interpret and apply those commitments specifically to ornithological receptors, highlighting how design integration and management actions will maintain, protect, and enhance habitats used by breeding and non-breeding birds during construction, operation, and decommissioning of the Proposed Development.
- 12.9.2 Spatial delivery of the measures described below is illustrated on the Outline Environmental Masterplan (OEM) **[EN0110012/APP/LVS/02.12]** and is secured via the oLEMP **[EN0110012/APP/LVS/07.05]** and oBMAMP **[EN0110012/APP/LVS/07.19]**.
- 12.9.3 The Proposed Development has been environmentally led and designed to retain, buffer, and enhance habitats of ecological value, particularly those supporting bird assemblages recorded during baseline surveys. These measures are embedded within the design and secured through the oLEMP **[EN0110012/APP/LVS/07.05]** and oBMAMP **[EN0110012/APP/LVS/07.19]**.
- 12.9.4 Collectively, these measures will contribute to measurable biodiversity net gain outcomes, as demonstrated in the BNG Report **[EN0110012/APP/LVS/05.09]**.
- 12.9.5 Key ornithology-relevant design commitments set out in in the Design Parameters and Commitments Document **[EN0110012/APS/LVS/05.06]** include the following:

Buffering Habitats of Value

- 12.9.6 To protect woodland and treeline features from the Proposed Development, buffers around trees and woodland will follow the parameters set out in the Arboriculture Impact Assessment (Appendix 16.2 (ES Volume 3) [EN0110012/APP/LVS/06.03.16.02]). Embedded mitigation includes the application of buffers equivalent to 15 times the stem diameter for ancient and veteran trees, and a minimum 10 m buffer around non-ancient/non-veteran trees. Following the establishment of Root Protection Areas (RPAs) and canopy extents from the tree survey, either the initial buffer or the RPA and (or) whichever is greater will be applied. This approach ensures that mature tree canopies, woodland edges, and associated bird communities are safeguarded from potential construction and operational impacts.
- 12.9.7 An 8 m buffer has been provided between solar panels and hedgerows. These measures will aid preservation and enhance foraging, nesting and commuting routes for boundary thriving and farmland bird species assemblages.
- 12.9.8 A 10 m buffer has been provided from the bank top of all watercourses and riparian boundaries, which will reduce disturbance and retain habitat quality for riparian species like reed bunting and water rail.

Habitat creation and enhancement

- 12.9.9 Beyond protection, areas within buffer zones and other undeveloped parts of the Solar Development Sites will undergo targeted habitat creation and enhancement, as illustrated on the Outline Environmental Masterplan (OEM) [EN0110012/APP/LVS/02.12]. These will be managed in line with the submitted oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19], with a particular focus on habitat quality for farmland and waterbird bird species such as skylark, lapwing, and non-breeding birds (See Chapter 6: Biodiversity (Volume 1) EN0110012/APP/LVS/06.01.06]).
- 12.9.10 The oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19] is submitted alongside the Development Consent Order (DCO) Application providing further information on this, and the detailed LEMP and BMAMP will be prepared in substantial accordance with the submitted oLEMP [EN0110012/APP/LVS/07.05] and the oBMAMP [EN0110012/APP/LVS/07.19].
- 12.9.11 In summary, new planting across the Order Limits as part of the embedded mitigation design will be of benefit to bird species and is supported by recently published literature includes the following:
- 1) Creation and enhancement of 833 ha (65.7 ha within the Bird Mitigation Area) of grassland;
 - 2) Creation of 35 km of hedgerow and 23.2 ha of existing hedgerow reinforced;
 - 3) 523 trees planted;

- 4) 8.5 ha of proposed native woodland belt and block planting;
- 5) 6.6 ha of proposed enhancements to water courses;
- 6) 4.6 ha of scrub planting; and
- 7) A series of proposed scrapes within the Bird Mitigation Area (up to 8 ha).

Ecological connectivity

- 12.9.12 The internal layout of the Solar Development Sites includes green corridors linking hedgerows, woodlands and open areas, maintaining foraging and commuting routes for birds and other fauna, as well as indirectly sustaining functional linkages with the wider network of FLL used by SPA / Ramsar associated species during the non-breeding period. Grassland beneath arrays will be managed through low-density grazing or traditional mowing to promote botanical diversity and sward structures favourable to foraging birds, consistent with NPS EN-3 policy on reconnecting habitats via linear infrastructure. These are illustrated on the OEM [EN0110012/APP/LVS/02.12] and secured via the oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19].

Bird Mitigation Area

- 12.9.13 Approximately 65.7 ha within the Order Limits, situated in southern extent of Solar Development Site 1 will be retained as a non-breeding bird mitigation area, with the benefit of also supporting breeding bird species. This area, referred to as the 'Bird Mitigation Area (BMA)', will be multifunctional, designed to support both breeding and non-breeding bird assemblages. Details of the creation and management of the Bird Mitigation Area is provided in the oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19].
- 12.9.14 This area was selected based on its distance to the Lower Derwent Valley SPA and Ramsar site and within the SSSI Impact Risk Zone, the hydrology of the area i.e. ditches and seasonal flooding, and presence of qualifying features and the wider waterbird assemblage. It is illustrated on the OEM [EN0110012/APP/LVS/02.12].
- 12.9.15 The southern extent of Solar Development Site 1 was selected as the Bird Mitigation Area due to its strategic ecological and ornithological value and proximity to key designated sites. This area provides the greatest potential within the Order Limits to support and enhance habitats of importance to qualifying bird species associated with the wider assemblage. The presence of existing and retained ditches offers a valuable opportunity to restore natural hydrological patterns, creating wetter conditions that promote habitat diversification and ecological improvement. In addition, the Bird Mitigation Area lies within a SSSI Impact Risk Zone and represents the closest part of the Order Limits to the Lower Derwent Valley SPA and Ramsar site, making it the most suitable location to deliver meaningful mitigation, strengthen ecological and ornithological

connectivity, and support the long-term conservation objectives of these internationally designated areas.

12.9.16 To avoid residual impacts as a result of the Proposed Development, further embedded mitigation measures beyond the retention of land and will include the following within the Bird Mitigation Area (south of Solar Development Site 1):

- 1) Retention and enhancement of existing wet features and ditches, with backwaters creation and connecting channels to maintain seasonal hydrology;
- 2) Creation of shallow scrapes (8 ha) and low islands to provide invertebrate-rich foraging habitat and muddy margins;
- 3) Creation of bare ground through surface soil scraping (rotated throughout the breeding periods);
- 4) Establishment of botanically diverse grassland (88.8 ha) managed through low-intensity grazing and periodic cutting to sustain soil invertebrate productivity;
- 5) Selective removal of internal hedgerows to maintain open sightlines to reduce visual disturbance for flocking species;
- 6) Prevention of chemical and pesticide use;
- 7) Exclusion of public access through fencing and PRoW diversion to minimise disturbance, which is currently positioned through the central area of the Bird Mitigation Area;
- 8) Installation of agricultural wire stock fencing to align the PRoW to prevent public and dog encroachment; and
- 9) Monitoring and adaptive management.

12.9.17 The above are further detailed in the oBMAMP **[EN0110012/APP/LVS/07.19]**. The Bird Mitigation Area will be made functional prior to the commencement of construction starting in the non-breeding period i.e. constructed during the breeding period, prior to the non-breeding season commencing (September to March inclusive). The definition of functional will be based on on-going consultation with NE.

12.9.18 For the Bird Mitigation Area to be considered “functional”, the following assumed criteria has been set out. Note that confirmation of this definition will be confirmed through on-going consultation with Natural England (note that the below definition has been accepted by Natural England in relation to a non-breeding bird mitigation area on another solar scheme):

- 1) All physical works within the Bird Mitigation Area is completed;
- 2) The entire Bird Mitigation Area is available to support SPA qualifying features and species part of the wider waterbird assemblage; and
- 3) The entire Bird Mitigation Area is free from all construction related disturbances (noise, visual but not limited to). This restriction excludes the

southern portion of Solar Development Site 1, where construction activities will occur subject to the defined seasonal controls.

- 12.9.19 As set out in the oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19], the detailed LEMP and BMAMP will detail management responsibilities, annual monitoring, and adaptive measures to maintain ecological function throughout the operational phase.
- 12.9.20 Management of the Bird Mitigation Area through the oBMAMP [EN0110012/APP/LVS/07.19] is likely to involve the following (but not limited to):
- 1) Management and monitoring of scrapes (removing vegetation every two years), back waters and water levels;
 - 2) Maintaining the grass sward as short prior to the non-breeding and breeding season to ensure the area is suitable for waterbirds and ground nesting bird species;
 - 3) Management and maintenance of fencing; and
 - 4) Surveys to monitor bird numbers.
- 12.9.21 Full details and on-going consultation with NE regarding the Bird Mitigation Area can be found in the sHRA [EN0110012/APP/LVS/05.11]

Construction phase embedded mitigation

- 12.9.22 During construction, potential impacts on birds will be managed through implementation of a CEMP which will reflect the measures set out in the oCEMP [EN0110012/APP/LVS/07.02], which details procedural and best-practice measures to protect retained habitats and species. These measures include the following:
- 1) Ecological protection buffer zones through temporary and permanent fencing.
 - 2) Pollution prevention -10 m setbacks from bank tops for all watercourses, controls on refuelling, surface water runoff and dust suppression;
 - 3) Lighting management- temporary lighting will follow a sensitive design to avoid light spill towards sensitive habitats;
 - 4) Temporary hoarding to alleviate noise and visual impacts, where appropriate;
 - 5) Appointment of Ecological Clerk of Works (ECoW) during both non-breeding and breeding seasons (oversight and monitoring);
 - 6) Trenchless crossings- Horizontal Directional Drilling (HDD) or other non-intrusive techniques will be used for watercourses/site crossings in Avoidance Areas
 - 7) Construction phasing, seasonal avoidance (where applicable) and sequencing noise and vibration intensive activities will be timed to avoid sensitive ornithological periods where practicable;

- 8) Functionality of the Bird Mitigation Area (detailed in paragraph 12.9.18)
- 9) Retention of habitats wherever possible and loss of woodland or hedgerow will be kept at a minimum. This also includes the location of the final Cable Route Corridor, whereby the route will be sited through existing gaps where practicable.
- 10) Reinstatement of habitat following completion of works to install the cable in the Cable Route Corridor.

Operational Phase Embedded Mitigation

- 12.9.23 During operation, activity on site will be minimal and limited to routine maintenance, vegetation management and inspections. The operational lifetime of the development is anticipated to be up to 60 years.
- 12.9.24 An oOEMP [EN0110012/APP/LVS/07.03] has been prepared to support this DCO Application. The oOEMP sets out the general environmental principles to be followed during the operation of the Proposed Development including during general operational maintenance. The oOEMP will be used as the basis for a detailed OEMP to be prepared for approval prior to commencement of operation.
- 12.9.25 Key infrastructure elements have varying lifespans with:
- 1) solar PV modules expected to last around 40 years,
 - 2) batteries and conversion units 10–15 years, and
 - 3) transformers and switchgear 20+ years.
- 12.9.26 As set out in Chapter 2 Proposed Development, there will be periodic replacement of electrical infrastructure during the operational lifetime of the Proposed Development. The expected programme for battery and panel replacements is less intensive and will occur on a site-by-site basis, the number of vehicle trips will be lower during replacement activities than during the construction phase. Activities will follow measures outlined in the detailed OEMP, with emphasis on low disturbance and minimal traffic (typically five light van visits per site per month).
- 12.9.27 The oOEMP [EN0110012/APP/LVS/07.03] is submitted as an outline version with the DCO Application and secured through a Requirement to be finalised before the operational phase commences.
- 12.9.28 Any replacement activities would deploy similar measures as the construction phase, with relevant measures to be set out in the OEMP as are set out in the detailed CEMP.
- 12.9.29 The following embedded mitigation measures will protect ornithological receptors during the operational phase:
- 1) Lighting and Disturbance Control- demand-responsive motion-sensor units only, minimizing disturbance to nocturnal and crepuscular species (e.g., owls) and reducing light pollution near sensitive habitats

- 2) Retention of Buffer Zones- previously established buffer zones will be retained to protect habitats and maintain low-disturbance areas for nesting, foraging, and commuting wildlife.
- 3) Retention of undeveloped areas, landscape planting, and habitat creation will enhance biodiversity net gain and local wildlife support;
- 4) Internal Layout and Habitat Management- include green corridors linking key ecological features to maintain habitat connectivity, and grassland beneath solar arrays to be managed sensitively to promote botanical diversity.
- 5) Public Rights of Way- to include signage, way markers and screening vegetation or fencing and (or) diversion to reduce visual and acoustic disturbance/ Further detail is provided in the Outline PROW Management Plan **[EN0110012/APP/LVS/07.09]**;
- 6) Maintenance and replacement works within 250 m of the southern portion of Solar Development Site 1, where it adjoins the Bird Mitigation Area, shall be undertaken during the bird breeding season (April to August, inclusive); and
- 7) ECoW oversight, when works take place during the breeding period (March to August, inclusive).

12.9.30 Further operational safeguards, such as fire risk mitigation, are addressed in the oBSMP **[EN0110012/APP/LVS/07.06]** and oOEMP **[EN0110012/APP/LVS/07.03]**.

12.9.31 The Cable Route Corridor will not be active during operation; all temporary habitats will have been reinstated once operational.

Decommissioning

12.9.32 The Proposed Development will have an operational lifespan of up to 60 years. Once operations cease, decommissioning will involve the removal of all solar and BESS infrastructure, including PV modules.

12.9.33 Access tracks or other infrastructure may be retained, subject to agreement with landowners. Upon hand back, planting established under the approved LEMP will generally remain in situ, except for grassland areas, which may be removed to enable potential reversion to agricultural use. This also includes the Bird Mitigation Area, as a worst-case scenario.

12.9.34 Decommissioning activities will follow best practice waste management and recycling standards, with up to 99% of solar panel materials being recyclable and processed through facilities compliant with the Waste Electrical and Electronic Equipment (WEEE) Regulations 2013. Within the Cable Route Corridor, only joint boxes located at approximately 4 km intervals will be removed to around 1.2 m below ground level, with cables typically left in place unless full removal is required, in which case excavation would occur at regular intervals to retrieve them. Whereby opening of the ground at regular intervals to extract the cable.

12.9.35 Exact decommissioning methods will reflect current best practice and available technology at the time and will be guided by an oDEMP [EN0110012/APP/LVS/07.04]. A detailed Decommissioning Environmental Management Plan (DEMP), which will be substantially in accordance with the oDEMP [EN0110012/APP/LVS/07.04] will be agreed with relevant authorities prior to commencement, incorporating mitigation measures to minimise disturbance, including timing works to avoid sensitive periods for breeding and non-breeding birds wherever possible.

Best practice measures

12.9.36 In addition to embedded design features, a series of best practice measures will be implemented to manage potential impacts during construction, operation and decommissioning. These are secured via the oCEMP [EN0110012/APP/LVS/07.02], oOEMP [EN0110012/APP/LVS/07.03] and oDEMP [EN0110012/APP/LVS/07.04] (but are not limited to):

- 1) Ecological supervision – An Ecological Clerk of Works (ECoW) will oversee pre-works nest checks and enforce exclusion zones where active nests are identified and deliver toolbox talks where appropriate;
- 2) Timing and phasing of works, ensuring that construction proceeds in line with ecological mitigation commitments, including timing restrictions and habitat protection as set out above;
- 3) Lighting during and post-construction will follow a sensitive design (motion-sensor, downward-directed, low-intensity) to minimise light spill toward hedgerows, watercourses and the Bird Mitigation Area;
- 4) Pollution prevention- pollution-control protocols covering refuelling, dust suppression, sediment management and spill response will be applied to prevent contamination or degradation of riparian and wetland bird habitats;
- 5) Habitat protection – Temporary fencing and clear signage will be installed around retained habitats and buffer zones to prevent accidental encroachment or disturbance; and
- 6) Noise and vibration management – Contractors will adopt quieter plant and working methods near sensitive bird habitats wherever feasible.

12.9.37 During decommissioning, equivalent good-practice controls will be applied via the oDEMP [EN0110012/APP/LVS/07.04]., including timing works to avoid breeding and non-breeding seasons and maintaining established vegetation buffers where practicable. These measures, alongside the embedded ecological mitigation commitments, will ensure that all project phases are undertaken in a manner that protects retained habitats and supports local biodiversity

Management plans

12.9.38 As discussed above, a suite of management plans have been created for the Proposed Development, relevant to ornithology including:

- 1) oCEMP [EN0110012/APP/LVS/07.02];
- 2) oCTMP [EN0110012/APP/LVS/07.12];
- 3) oSRMP [EN0110012/APP/LVS/07.14];
- 4) oBSMP [EN110012/APP/LVS/07.06];
- 5) oLEMP [EN0110012/APP/LVS/07.05] which will also include management of the Bird Mitigation Area;
- 6) oPRoWMP [EN0110012/APP/LVS/07.09];
- 7) oDEMP [EN0110012/APP/LVS/07.04]; and
- 8) oBMAMP [EN0110012/APP/LVS/07.19].

12.9.39 These management plans incorporate embedded and good practice measures, as well as any further mitigation that arises out of the EIA process. Outline versions of these management plans are submitted alongside the ES as part of this DCO Application to secure the commitments within each assessment. A Requirement is included in the Draft DCO Application [EN0110012/APP/LVS/03.01] to ensure detailed management plans will be prepared to full versions by the appointed Contractor(s), substantially in accordance with the outline management plans, and will be submitted for approval by North Yorkshire Council in advance of starting the relevant phase of works.

12.10 Assessment of likely impacts and effects

- 12.10.1 This section presents the outcomes of the assessment of likely significant effects on ornithological receptors resulting from the Proposed Development. The assessment considers the implementation of embedded and best-practice mitigation measures, as outlined in the previous section, and reflects the current stage of design and baseline understanding.
- 12.10.2 The assessment identifies potential direct and indirect impacts arising during the construction, operation (including maintenance), and decommissioning phases of the Proposed Development, and considers whether these are likely to result in significant effects on bird species or habitats of ornithological value.

12.11 Designated Sites, Functionally Linked Land and non-breeding birds

Lower Derwent Valley SPA and Ramsar, Humber Estuary SPA and Ramsar

Combined assessment approach

- 12.11.1 Non-breeding bird surveys undertaken between September 2024 and September 2025 across the Order Limits (Solar Development Sites and within the Cable Route Corridor that fall within the SSSI Impact Risk Zone) recorded the following

species either listed individually on the Lower Derwent Valley and (or) Humber Estuary SPA and Ramsar citations (note that this list is limited to the bird species recorded during the field surveys for the Proposed Development):

- 1) Golden plover;
- 2) Ruff;
- 3) Teal; and
- 4) Wigeon.

12.11.2 Other species not listed as qualifying features of the LDV SPA citation but recorded at levels exceeding 1% of their national population (Ref 49) include:

- 1) Gadwall;
- 2) Greylag goose; and
- 3) Lapwing.

12.11.3 Species recorded within the Order Limits that are listed individually on the Humber Estuary SPA and Ramsar citation comprise the following:

- 1) Curlew;
- 2) Dunlin;
- 3) Golden plover;
- 4) Lapwing;
- 5) Mallard;
- 6) Oystercatcher;
- 7) Redshank;
- 8) Ruff;
- 9) Shelduck;
- 10) Teal; and
- 11) Wigeon.

12.11.4 Other species not individually listed on the Humber Estuary SPA citation but recorded in numbers exceeding 1% of the national population (Ref 49) comprise:

- 1) Gadwall;
- 2) Greylag goose;
- 3) Little egret;
- 4) Pink-footed goose; and
- 5) Shoveler.

12.11.5 Due to the overlapping qualifying features of the two designated sites and the inability to reliably assign birds to a specific SPA/Ramsar designation based on

field observation, the assessment does not separate impacts by designation (i.e., separately for the two named SPA and Ramsars).

12.11.6 Instead, a combined assessment approach is adopted (see below for the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites, in line with the precautionary principle. This reflects:

- 1) The shared bird populations and species that use both sites during the non-breeding season;
- 2) The similar habitat types found within the Order Limits (e.g. arable, wetland, and pasture); and
- 3) The inability to assign birds to specific designated sites when recorded outside their boundaries.

12.11.7 In line with NE guidance (Ref 21), this assessment applies the precautionary principle when considering mobile species recorded within the Order Limits but associated with network of SPA/Ramsar sites. Where species cannot be reliably assigned to a single site, a combined assessment approach is adopted.

12.11.8 For clarity, references to the 'LDV and Humber Estuary Designated Sites' include the SPA and Ramsar designations and their underpinning SSSIs (Derwent Ings, Melbourne and Thornton Ings, Brighton Meadows, Newton Mask). With regards to ornithology, no additional relevant features (species) or potential for impacts on these additional designations have been identified and therefore all overlapping designations are considered concurrently.

Table 12-21 Bird species unique to and shared between the Lower Derwent Valley and Humber Estuary SPA and Ramsar sites

Category	Number of species	Species as individually listed and part of the wider waterbird assemblage (Annex B and B1 of Natural England’s guidance)
Shared between sites	12	Gadwall, golden plover, greylag goose, lapwing, mallard, pochard, ruff, shelduck, shoveler, teal, whimbrel and wigeon.
Unique to Lower Derwent Valley	4	Bewick’s swan, whooper swan, pintail, water rail.
Unique to Humber Estuary	24	Avocet; bar-tailed godwit; bittern; black-tailed godwit; brent goose; curlew; dunlin; goldeneye; greenshank; grey plover; hen harrier; knot; little egret; little tern; marsh harrier; oystercatcher; pink-footed goose; redshank; ringed plover; sanderling; scaup; turnstone; crane; green sandpiper.

Other Designated Sites

Skipwith Comon SSSI – all phases

- 12.11.9 The EIA Scoping Opinion (ID 3.3.1) presented in Table 12-5 required that Skipwith Common SSSI remain within the ES scope unless evidence was available to demonstrate that significant effects were unlikely. A detailed assessment was undertaken at the PEIR stage, and Natural England subsequently agreed that significant adverse effects are not predicted (Table 12-6).
- 12.11.10 The PEIR assessment concluded that no credible impact pathways exist during any phase of the Proposed Development. Construction-related noise, visual disturbance, dust or pollution effects were predicted to be negligible due to distance, with the site lying well beyond recognised ecological dust-screening thresholds. Cable installation within the corridor will be underground and operational activities will be infrequent, low-intensity and temporary. Embedded measures secured through the oCEMP **[EN0110012/APP/LVS/07.02]** and oDEMP **[EN0110012/APP/LVS/07.04]** (e.g. pollution prevention, lighting control and ecological supervision) further minimise any residual risk.
- 12.11.11 As such, the PEIR identified no significant adverse effects on the SSSI during construction, operation or decommissioning, and Natural England confirmed that further detailed assessment was unnecessary [S42 ID 205]. The ES therefore provides this proportionate summary only.
- 12.11.12 No significant adverse effects are predicted, and no further assessment is required.

Fairburn Ings and Newton Ings SSSI- all phases

- 12.11.13 A detailed assessment was undertaken at the PEIR stage, which concluded that significant adverse effects were unlikely due to the substantial separation distance (approximately 1.9 km from the Cable Route Corridor and over 4 km from the nearest Solar Development Site), the underground nature of the cable installation, and the absence of plausible impact pathways. Natural England and the RSPB agreed with this conclusion at the PEIR stage [S42 ID 205].
- 12.11.14 The SSSI supports several species that are also qualifying or assemblage features of the Lower Derwent Valley and Humber Estuary SPA/Ramsar sites, there is no functional or hydrological linkage between the SSSI and habitats within the Order Limits. As such, the SSSI itself does not function as FLL and does not require detailed assessment.
- 12.11.15 However, the bird species for which the SSSI is notified are indirectly fully assessed within the SPA/FLL assessment, which considers their use of off-site habitats within the Order Limits.
- 12.11.16 Given the lack of any credible impact pathway to the SSSI and the embedded mitigation secured through the oCEMP **[EN0110012/APP/LVS/07.02]** and oDEMP **[EN0110012/APP/LVS/07.04]**, no significant adverse effects on the

ornithological interest features of Fairburn and Newton Ings SSSI are predicted, and no further detailed assessment is required.

Thorne & Hatfield Moors SPA- all phases

- 12.11.17 The EIA Scoping Opinion requested that European sites should only be scoped out where clear justification is provided. Thorne & Hatfield Moors SPA lies approximately 18 km from the Proposed Development, and no plausible impact pathways have been identified. There is no hydrological, visual, noise, air quality or functional connectivity between the SPA and any part of the Order Limits.
- 12.11.18 Nightjar, the qualifying feature of the SPA, has not been recorded within or near the Proposed Development in more than a decade. Only six historical records (1981–2009) exist within the wider area, and recent county-level monitoring categorises the species as a scarce passage migrant with no confirmed local breeding. There is no suitable supporting habitat for nightjar within the Order Limits.
- 12.11.19 This scoping position was agreed with Natural England (meeting held 16 April 2025; Table 12-5) and North Yorkshire Council (meeting held 20 March 2025; Table 12-5). On this basis, there is no potential for significant effects to Thorne and Hatfield Moors SPA and the site is therefore not considered further within this chapter.

12.12 Assessing and defining Functionally Linked Land

- 12.12.1 FLL is broadly defined here as land outside the SPA/Ramsar boundaries (within 20 km of the Order Limits) that is used by qualifying species or assemblage species associated with the LDV and Humber Estuary SPA and Ramsar for foraging, roosting, loafing and (or) movement above the 1% threshold (but not limited to). The potential extent of FLL is determined by evidence of use rather than by a fixed distance threshold.
- 12.12.2 The assessment used here will be of those species recorded during the baseline surveys which meet or exceed the 1% threshold of the European sites as per NE response in Table 12-6 (response reference [S42 ID 195]).
- 12.12.3 According to NE guidance (Annex B1, 2023 (Ref 49); Annex B), the following qualifying species of the LDV and Humber Estuary SPA and were recorded during the baseline surveys and are known to use off-site habitats (away from the designated sites highlighted) during the non-breeding season:
- 1) Curlew;
 - 2) Golden plover;
 - 3) Lapwing;
 - 4) Mallard;
 - 5) Redshank;
 - 6) Ruff;

- 7) Shelduck;
- 8) Teal;
- 9) Wigeon;
- 10) Greylag goose;
- 11) Little egret;
- 12) Pink-footed goose; and
- 13) Whooper swan.

- 12.12.4 The above species are identified as using areas beyond the SPA, indicating that parts of the Solar Development Sites (particularly Sites 1, 4 and 8) function as FLL as presented in Section 12.8. For the avoidance of doubt, a precautionary approach is adopted whereby it is assumed that the entire Order Limits for all of the Solar Development Sites is either FLL or has the potential to be FLL. As such, effects on the entire Order Limits are assessed, and mitigation is based on bird activity and value of the entire Order Limits and is not discrete to specific Solar Development Sites.
- 12.12.5 The assessment therefore addresses impacts on FLL and non-breeding birds collectively, reflecting the ecological and ornithological connectivity and significant species overlap. The focus is on qualifying features of the LDV and HE Designated Sites, including those forming part of the SPA waterbird assemblages.

12.13 Construction and decommissioning

Designated Sites and Habitats

- 12.13.1 Non-breeding birds, including wintering and passage wildfowl and waders such as lapwing, golden plover, greylag goose, teal, and mallard, are known to utilise land within and surrounding the Order Limits. These species make use of a mosaic of arable fields, improved grassland, and wetland margins for foraging and roosting.
- 12.13.2 Several of these species are qualifying features or form part of the wider waterbird assemblage of the Lower Derwent Valley (LDV) and Humber Estuary SPA and Ramsar Sites. They have been recorded within the Study Area in numbers exceeding or equalling the 1% WeBS 5-year monthly mean, based on the most recent five-year WeBS data (Ref 50), particularly within Solar Development Sites 1, 4 and 8.
- 12.13.3 Although the Order Limits lie entirely outside designated site boundaries (the nearest being the LDV SPA/Ramsar, approximately 2.8 km east of Solar Development Site 1), there remains potential for indirect impacts on FLL as a result of the Proposed Development.

Dust and Air Quality

- 12.13.4 A full air quality assessment has been scoped out based on lack of impact pathways (i.e. distance and non-sensitive plant communities within arable and semi-improved grasslands associated with FLL), and only construction dust has been considered as part of the ES (see Appendix 16.1: Construction Dust Assessment (ES Volume 3) **[EN0110012/APP/LVS/06.03.16.1]**) as construction traffic numbers fall below the screening thresholds outlined in Guidance Note NEA001 by NE (Ref 56). As such, it can also be concluded that there will be no air quality effects on the SPA/Ramsar and FLL as a result of construction traffic.
- 12.13.5 With regard to dust, the scope of assessment for ecological receptors extends to 50 m from the Order Limits. The designated sites lie well beyond this distance and are therefore outside the assessment boundary for potential dust effects. Areas of FLL and potential FLL within Order Limits comprise arable and improved grassland of limited ecological sensitivity and value and are not considered susceptible to dust deposition at levels that would alter habitat condition or bird foraging potential. In accordance with IAQM guidance, and with the successful implementation of embedded best-practice dust control measures (as detailed in Appendix 16.1: Construction Dust Assessment (ES Volume 3) **EN0110012/APS/LVS/06.03.16.01]**), effects on all ecological and ornithological receptors are therefore predicted to be negligible.

Embedded mitigation

- 12.13.6 Embedded mitigation measures to minimise the likelihood and severity of pollution events, dust deposition and run-off arising during construction have been detailed in the oCEMP **[EN0110012/APP/LVS/07.02]**. The oCEMP includes how vehicles, plant and materials will be transported to and around the construction zone, as well as other standard environmental protection measures that will apply during construction.
- 12.13.7 Further embedded measures will also include a sensitive, task-specific lighting strategy will be implemented during the construction and decommissioning phases to control the use of temporary illumination. Any lighting required will be directional and low intensity, designed to avoid spill onto existing or newly created linear habitats, woodland, and habitats of value. These measures will minimise potential disturbance to birds active during dusk, dawn and nocturnal periods, as well as reduce general ecological impacts.

Traffic noise and movements (all phases)

- 12.13.8 Information on traffic routes, flows, average speeds and Heavy Goods Vehicles (HGV) movements for both the baseline year and the construction peak is provided in Chapter 14: Traffic and Movement (ES Volume 1) **[EN0110012/APP/LVS/06.01.14]**. Predicted noise changes attributable to construction traffic are ≤ 1.5 dB, which is not sufficient to give rise to disturbance effects on qualifying species or the wider waterbird assemblage. There is one isolated Common Lane (Hambleton) which is anticipated to have an increase of

- 4.5 dB, however this is within an existing and well used link road and is located outside of SSSI IRZ, and therefore impacts are considered negligible.
- 12.13.9 Construction access does not cross or pass adjacent to the Bird Mitigation Area; therefore, visual disturbance arising from traffic or workforce movements is not anticipated (Figure 14.4: Construction Routing (ES Volume 2) [EN0110012/APP/LVS/06.02.14.04]).
- 12.13.10 The Cable Route Corridor which adjoins to Solar Development Site 1, is located in the furthest south-western corner. This area is enclosed by hedgerows and is screened by a moderate sized copse, and construction of the Cable Route Corridor will be during passage and the breeding season, however the closest point will be completed during the breeding season to avoid disturbance, where practicable.
- 12.13.11 During the operation and maintenance phase, each Solar Development Site is expected to receive approximately five maintenance visits per month, typically by Light Goods Vehicles (LGVs).
- 12.13.12 Alongside regular maintenance, some infrastructure will require replacement. The construction assessment for traffic provides a reasonable worst-case scenario, as replacement of infrastructure does not require as many trips than it does for construction e.g. excavation, route construction, landscaping (not limited to) will not be required, and it also likely to be staggered as detailed in Appendix 14.1: Transport Assessment (ES Volume 3) [EN0110012/APP/LVS/06.03.14.01].
- 12.13.13 Grid connections within the Cable Route Corridor will be located underground and will not generate operational traffic. Occasional maintenance access may be required, but this is expected to occur only once or twice per year and will result in negligible disturbance and will result in a very low level of disturbance, comparable to infrequent recreational access and notably less intensive than existing agricultural activities that currently exist throughout the Order Limits.
- 12.13.14 The predicted increase in daily traffic associated with operational maintenance is well below the 10% threshold identified in the IEMA (now known as ISEP) Guidelines for the Environmental Assessment of Road Traffic and is therefore categorised as negligible (Chapter 14: Traffic and Movement (ES Volume 1) [EN0110012/APP/LVS/06.01.14]). As these infrequent trips fall substantially below levels that could give rise to noise or visual disturbance for qualifying species or the wider waterbird assemblage, no additional mitigation is required, and residual effects remain as reported.
- 12.13.15 Decommissioning activities are expected to generate vehicle movements of a similar order of magnitude to those associated with the construction phase. The construction traffic assessment therefore represents a reasonable worst-case scenario for potential traffic-related disturbance effects. In light of the long-term nature of decommissioning and the uncertainty surrounding future baseline transport conditions, a separate transport assessment has not been undertaken. Instead, an oDEMP [EN0110012/APP/LVS/07.04] has been prepared, which commits to the development of a Decommissioning Traffic Management Plan (DTMP) to manage traffic effects and avoid adverse impacts

Water quality (all phases)

- 12.13.16 Chapter 15: Water Resources and Flood Risk (ES Volume 1) **[EN0110012/APP/LVS/06.01.15]** identified all hydrological receptors at risk of pollution during construction are local features, including Burr Closes SSSI, Skipwith Common SSSI, and nearby Sites of Importance for Nature Conservation (SINCs) and Water Dependent Terrestrial Ecosystems (WDTEs). None of these features are underpinned or form part of, support, or are hydrologically connected to the Lower Derwent Valley SPA/Ramsar or Humber Estuary SPA/Ramsar and Hatfield SPA.
- 12.13.17 Construction activities, particularly HDD beneath the River Ouse and Selby Dam, present a potential indirect pathway for effects on birds that forage within these waterbodies or rely on adjacent FLL. In the absence of mitigation, pollution incidents (e.g. bentonite release), surface runoff or sediment mobilisation could temporarily reduce water quality and, in turn, reduce prey availability for water-dependent species HDD also carries a low risk of “frac-out”, where drilling fluid escapes to the surface through ground fissures. Such events can increase turbidity and cause short-term disturbance to aquatic habitats that support prey species.
- 12.13.18 Embedded mitigation will include standard environmental pollution measures (to be provided in the oCEMP **[EN110012/APP/LVS/07.02]**) and as per the Design Principles, a 10 m buffer will be provided from bank top for all watercourses. Silt fencing will be used strategically (i.e. within overland flow paths) where required to minimise sediment pollution to watercourses.
- 12.13.19 All HDD works will be undertaken in accordance with a detailed Method Statement, including fluid-management procedures, environmental monitoring and emergency response actions. A frac-out contingency plan will also be implemented, setting out measures for rapid containment and clean-up should a release occur.
- 12.13.20 During operation, effects on surface water and groundwater quality are expected to be negligible. As set out in Chapter 15: Water Resources and Flood Risk (ES Volume 1) **[EN0110012/APP/LVS/06.01.15]**, operational risks are limited to low-probability accidental contaminant releases and minor drainage changes, with effects assessed as minor adverse or negligible and not significant. All measures are secured via the oOEMP **[EN0110012/APP/LVS/07.03]**.
- 12.13.21 During decommissioning, potential effects on water quality are expected to be comparable to, or less than, those during construction. It is assumed that most in-ground infrastructure would remain in situ, with any required cable removal undertaken using low-disturbance methods and avoiding designated avoidance areas. Decommissioning would be managed through the prepared oDEMP **[EN0110012/APP/LVS/07.04]**, applying measures similar to those used during construction and agreed with the relevant authorities. Any effects on water quality, and associated functionally linked habitats, are therefore expected to be localised, temporary and not significant.

12.13.22 With these measures in place, any changes in water quality are expected to be highly localised, temporary and effectively controlled. Any resulting effects on prey availability, and therefore on foraging opportunities for breeding and non-breeding birds, are assessed as **minor adverse** and not significant at a local scale in EIA terms.

Disturbance (non-breeding birds)

Phasing and sequencing

12.13.23 To minimise disturbance to qualifying non-breeding SPA/Ramsar bird species and FLL, construction of the Bird Mitigation Area (BMA) will be undertaken outside the sensitive non-breeding period (April–August inclusive) and will be completed prior to the construction taking place.

12.13.24 Construction works within the southern portion of Solar Development Site 1 (250m section; Figure 12.4: Predicted Construction Noise Levels at SDS 1 (ES Volume 2) [EN0110012/APP/LVS/06.02.12.04]) that adjoin the BMA will be limited to construction activities that do not give rise to noise levels equal to or above 50 dB during the non-breeding period. Construction works that are likely to generate noise levels above 50 dB will be undertaken during the breeding season only (specifically April–August) when qualifying species presence is considered low and not ornithologically meaningful. For example, the monthly 1% thresholds for recorded species within Solar Development Site 1 are 0–2.1 birds for lapwing and 2.3–4.1 birds for greylag goose, indicating negligible functional use during this timeframe.

12.13.25 For clarity, the southern portion of the Solar Development Site 1 is defined as the area within 250 m north of and adjoining the BMA. See Figure 12.4: Predicted Construction Noise Levels at SDS 1 (ES Volume 2) [EN0110012/APP/LVS/06.02.12.04].

12.13.26 This sequencing ensures that the Bird Mitigation Area becomes fully functional in advance of the non-breeding period, thereby providing high-quality refuge habitat while construction progresses across the central and northern portions of Solar Development Site 1 and the remainder of the Order Limits. This strategy maintains the ecological and ornithological function of the wider landscape and avoids any temporal gap in available foraging/roosting habitat for SPA/Ramsar species.

12.13.27 Construction of the portion of the Cable Route Corridor within the SSSI Impact Risk Zone (between Solar Development Site 1 and Thorpe Willoughby) will be restricted to the breeding and passage seasons only (April–October) to avoid disturbance during the most sensitive non-breeding period. Works along the remaining sections of the Cable Route Corridor may proceed year-round due to the temporary nature of impacts and distance from sensitive bird usage.

12.13.28 Once the BMA is established and functioning as a higher-capacity refuge of improved habitat quality, construction throughout the Order Limits will not be subject to further seasonal restriction, with the exception of the Cable Route

Corridor which lies within the SSSI IRZ (limited to April to October, inclusive) and the southern portion of Solar Development Site 1 (limited to April-August, inclusive), as set out in the paragraphs above.

- 12.13.29 During the operational phase, all maintenance activities requiring solar PV replacement within the southern portion of Solar Development Site 1 will be restricted to the breeding period only (April to August, inclusive), ensuring no disturbance of qualifying non-breeding birds during winter months.
- 12.13.30 These phasing restrictions are secured through the DCO Application Requirements and the oLEMP [EN0110012/APP/LVS/07.05] and the oBMAMP [EN0110012/APP/LVS/07.19], ensuring enforceability and long-term compliance.
- 12.13.31 The decommissioning phase is likely to follow a similar sequencing approach to that adopted during construction, with the exception of the construction of the BMA, which would not be required, as this will be handed back to the relevant landowner. Seasonal restrictions will be applied, where necessary, to avoid sensitive non-breeding periods for qualifying species which utilise the BMA, with decommissioning activities programmed to minimise disturbance and displacement effects.

Noise, vibration and visual intrusion (non-breeding birds) – construction and decommissioning

- 12.13.32 Construction and decommissioning activities have the potential to affect non-breeding birds and FLL / potential FLL through a combination of disturbance and temporary habitat effects. Noise, vibration and visual intrusion may lead to short-term avoidance of foraging or roosting areas, particularly where works occur in proximity to regularly used fields as identified during the baseline surveys.
- 12.13.33 In the absence of established noise-disturbance criteria for birds, this assessment broadly follows the parameters agreed with NE during the recent, East Yorkshire Solar Farm Habitats Regulations Assessment (Ref 65), which also assess the same European sites considered in this chapter. This project identified the following indicative screening ranges for potential disturbance to SPA/Ramsar birds (Ref 57):
- 1) Changes of approximately 3 dB from baseline are perceptible and should be considered for assessment;
 - 2) Noise levels below 55 dB LAeq are generally unlikely to be disturbing, regardless of the difference from baseline;
 - 3) Noise levels between 55 dB and 70 dB LAeq may be disturbing depending on the degree of change, duration of exposure, and extent of habitat affected;
 - 4) Low-60s dB: can be associated with reduced foraging / walking away in sporadic contexts; and

- 5) Noise levels above 70 dB LAeq are likely to be disturbing unless qualifying birds are already exposed to similarly high levels in their baseline soundscape.
- 12.13.34 Note that noise changes are also used as a proxy for vibration, as vibration effects from construction plant are closely correlated with airborne noise emissions and attenuate rapidly with distance, particularly in open agricultural settings.
- 12.13.35 Ornithological considerations in the context of the Proposed Development and bird species distribution (i.e. high aggregates/movements) have also been included as part of the overall assessment:
- 1) The nature of bird usage of affected fields (within and outside of the Order Limits), with most areas supporting diffuse, low-density, and transient assemblages rather than high-value, focal foraging or roosting areas; and
 - 2) Availability of adjacent undeveloped and undisturbed habitat of equivalent quality within short distances, reducing the likelihood of displacement having fitness consequences, including the Bird Mitigation Area and retained undeveloped area excluded during design evolution where full baseline surveys were undertaken Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2)
[EN0110012/APP/LVS/06.02.03.02].
- 12.13.36 These values are applied as precautionary assessment triggers rather than absolute thresholds of effect. They provide a consistent framework for interpreting predicted LAeq levels alongside natural attenuation factors such as hedgerows, tree lines, topography, and the nature of the works and existing noise levels.
- 12.13.37 Comparable guidance was also applied at Cleeve Hill Solar Park, where a 55 dB LAeq value was used as a precautionary assessment trigger for potential waterbird disturbance in open coastal settings. Given the more enclosed inland-farmland context of Order Limits, where vegetation, topography and existing rural noise provide attenuation this benchmark is considered highly conservative. Predicted construction noise levels are largely below or comparable with this trigger, indicating a negligible likelihood of sustained behavioural response.
- 12.13.38 The Order Limits are naturally screened and structurally diverse, being largely fringed by hedgerows, tree lines and local roads. These features provide substantial acoustic and visual attenuation, thereby reducing the likelihood of behavioural disturbance. For instance, Solar Development Site 4 is bisected by a road and an earth bund surrounded by mature vegetation, and Solar Development Site 1 is intersected by a PRow, hedgerows and experiences daily farming practice.
- 12.13.39 Furthermore, the Order Limits for the Solar Development Sites, particularly Solar Development Site 1 experiences disturbance through cropping rotations (heavy plant) and PRows intersecting the area.
- 12.13.40 Chapter 11: Noise and Vibration (ES Volume 1) **[EN0110012/APP/LVS/06.01.11]**, confirms that most receptors located at or

immediately adjacent to the Order Limits are predicted to experience negligible-to-minor noise changes (≤ 4 dB), which are not expected to result in significant ornithological effects; and the results are presented with the inclusion of temporary hoarding (embedded mitigation). The following sections consider the results set out in that chapter in an ornithological context. Note, that no time corrections have been applied to the noise predictions which offer the worst-case scenario and temporary construction hoarding is assumed at relevant construction-facing boundaries in the noise modelling and represents an embedded mitigation measure required to achieve the predicted noise levels at boundary receptors

Solar Development Site 1

- 12.13.41 Within Solar Development Site 1, baseline sound levels currently range between 44 dB and 54 dB, representative of a rural arable landscape (cropping activities) with scattered dwellings and PRow. The area is also characterised by arable farming with rotational cropping and low background activity aside from local traffic.
- 12.13.42 The greatest predicted changes in noise pressure levels within Solar Development Site 1 occur at Whinchat Cottages (S1_R4; located furthest west), Mount Pleasant Farmhouse (S1_R1; central) and Tiledshed Farm (S1_R10; furthest north), each predicted to experience changes of approximately $+ - 14$ dB above baseline are predicted due to their proximity to construction activities (i.e. on the boundary of the installation of solar PV infrastructure). Absolute noise levels remain below 63 dB LAeq and are largely below 55 dB. Construction activities in the southern portion of Solar Development Site 1 extending up to approximately 250 m from the boundary with the BMA, will be completed outside of the non-breeding period in accordance with the committed phasing strategy. This reflects the absence of natural screening in this location and ensures that the BMA remains a low-disturbance refuge (generally below 50 dB LAeq) when qualifying bird species are present at functionally linked densities.
- 12.13.43 Areas north of the Solar Development Site 1 (S1_R3, S1_R9 and S1_R2) located approximately 200 m from the construction area and outside of the Order Limits, will not experience any change from baseline levels. This reflects effective noise attenuation with distance, demonstrating that construction noise does not propagate at ornithologically meaningful levels into adjacent fields beyond the Order Limits. This area supports moderate sized flocks of golden plover (up to 48), lapwing (up to 128), teal (up to 9) and greylag goose (up to 2). As noise levels will remain unchanged (<2 dB), acoustic disturbance to birds using these areas is considered highly unlikely.
- 12.13.44 There are no identified concentrations or consistent patterns of qualifying bird species distribution within or immediately adjacent to Solar Development Site 1 per month, suggesting that use of the landscape is of mixed value or due to current disturbances (crop rotation/PRow), however their use and densities confirms that the area within Solar Development Site 1 is functionally linked. Any birds temporarily displaced by localised construction activity will refuge to the

BMA and (or) adjacent undisturbed fields of comparable value i.e. areas north, east and south of Solar Development Site 1 as demonstrated above.

- 12.13.45 The Bird Mitigation Area within Solar Development Site 1 will remain functional during construction, preserving a large, undisturbed foraging and roosting through the sequencing and phasing of the construction program (paragraph 12.13.18 onwards). This secure area will provide immediate alternative habitat for any birds temporarily displaced from active working zones and areas of long-term loss (Solar Development Sites), ensuring continuity of habitat use. Noise modelling indicates that the majority of the Bird Mitigation Area will remain below ~50 dB LAeq during peak construction, with elevated noise levels confined to a narrow zone ('southern portion of Solar Development Site 1) at the northern interface adjoining the southern portion of Solar Development Site 1 boundary. With the agreed and secured sequencing through the oCEMP **[EN0110012/APP/LVS/07.02]** (as stated in 12.13.18), significant disturbance effects are not predicted.

Solar Development Sites 2 and 3

- 12.13.46 Solar Development Sites 2 and 3 recorded very few species which did not regularly meet the 1% threshold within and outside of the Order Limits and therefore, neither site met the broad criteria of FLL set by NE.
- 12.13.47 Predicted construction noise changes are averaged equal of less than 4 dB across the site, although increases of up to approximately 14 dB may occur at receptors closest to construction activity. Absolute levels remain below 63 dB LAeq.
- 12.13.48 Across the surveys, only lapwing exceeded the 1% on two occasions during the passage period during, March; 2% and April; 1%. However, the monthly 1% threshold for April was 2 birds which is not considered ecologically meaningful.
- 12.13.49 Both Solar Development Sites are not considered to meet the broad criteria of FLL as set out by NE, due to the combination of low bird usage, low average noise increases (equal to or less than 4.3 dB), localised peaks below 63 dB LAeq means construction disturbance is not predicted to result in significant effects on SPA/Ramsar qualifying species or the wider waterbird assemblage.
- 12.13.50 However, it is also important to note that the Bird Mitigation Area will be functional to support all displaced birds from construction impacts.

Solar Development Site 4

- 12.13.51 For Solar Development Site 4, change in baseline is predicted to be between 4-14 dB at its closest receptor. Greylag geese were recorded regularly across Solar Development Site 4 and were particularly concentrated in the north-western extent but scattered within the southern extent in smaller numbers of the Solar Development Site 4 Order Limits- the 1% threshold for greylag was exceeded each month inside of the Solar Development Site 4 Order Limits, confirming that it meets the broad criteria of FLL. It is however also important to note that greater

numbers of up to 400 birds were recorded outside of the Order Limits, north and south of the River Aire at Birkin Holme, where floodplain habitat provides higher-quality foraging conditions.

12.13.52 The greater and undeveloped areas inside and outside of the Order Limits which will be unaffected by construction Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) **[EN0110012/APP/LVS/06.02.03.02]**, due to:

- 1) The established Bird Mitigation Area which is free from disturbance designed to tailor towards this species;
- 2) Spatial separation from working areas beyond disturbance distances cited in supported literature;
- 3) The intervening public highway between Solar Development Site 4 and the river Aire and surrounding; and
- 4) An existing topographical bund providing natural acoustic and visual screening between the working area and the river Aire and surrounding area.

12.13.53 These factors ensure that functionally linked habitat adjacent to the River Aire remains free from disturbance and the long-term loss of land is mitigated for within Solar Development Site 1.

Solar Development Site 6/7

12.13.54 Across Solar Development Site 6/7, noise pressure changes are averaged equal to or less than 6 dB change in noise levels, with localised increases up to approximately 12 dB at the closest receptors, but absolute levels remain below 61 dB LAeq.

12.13.55 These sites are fringed by rail and road infrastructure and comprise enclosed small parcels of land. Bird usage was low and consistently below the 1% threshold, which is likely due to the limited habitat suitability. The Solar Development site is not considered to meet NEs broad criteria of FLL. Therefore, noise disturbance is not expected to result in significant effects on qualifying species.

12.13.56 However, it is also important to note that the Bird Mitigation Area will be functional to support all displaced birds from construction impacts.

Solar Development Site 8

12.13.57 For Solar Development Site 8, the change in noise baseline is between 0-6dB and species located in adjacent fields will not be impacted from construction disturbance. Use of adjacent fields was considered minimal with one moderate flock of golden plover (45) recorded throughout the year. Displacement of qualifying species within Solar Development Site 8, greylag, lapwing, golden plover, mallard and oystercatcher will be mitigated for through the establishment

of the Bird Mitigation Area which will be fully available throughout the non-breeding period.

Cable Route Corridor

- 12.13.58 Along the Cable Route Corridor, SPA species which were largely a combination of golden plover and lapwing which exceeded the 1% threshold, largely during autumn passage. The maximum predicted sound-pressure level is 54 dB LAeq (at receptor CC_R18) and is primarily associated with HDD works.
- 12.13.59 Given the temporary, localised nature of works, predicted noise levels ≤ 61 dB LAeq, however the majority of predicted noise levels fall below the 55 dB precautionary trigger. Construction within the SSSI Impact Risk Zone (Solar Development Site 1 to Thorpe Willoughby) will be restricted to April–October, avoiding the highly sensitive non-breeding period (November–March). Pre-construction and dynamic ECoW oversight during spring/autumn passage will ensure timing avoids peak aggregations, where appropriate i.e. no natural screening, numbers of birds present (see below).
- 12.13.60 Although works overlap with spring and autumn passage periods, the risk of disturbance is limited by the short-duration nature of activities at any given location, with the majority of predicted noise levels remaining below 55 dB LAeq, and the application of ECoW-led timing controls where higher numbers of birds are present.

Visual Disturbance (non-breeding birds)

- 12.13.61 Visual disturbance will be further minimised through retention of existing vegetation and roads, limited working footprints, and installation of temporary hoarding or screening along open boundaries where required through ECoW oversight. These measures will be secured through the oCEMP **[EN0110012/APP/LVS/07.02]** and implemented prior to commencement of the construction phase. Applying temporary hoarding around the entirety of the Cable Route Corridor would be impractical based on the diffuse and opportunistic use of the area for both birds and the general public.
- 12.13.62 Solar Development Sites 2, 3, 6/7 and 8 are already visually contained by their existing structure, being intersected by hedgerows, treelines, highways and, in some locations, rail infrastructure. Solar Development Site 4 is visually screened to the south by a natural earth bund and the intervening highway, separating construction areas from the high-value foraging habitat along the River Aire located outside the Order Limits.
- 12.13.63 Within Solar Development Site 1, construction areas are also naturally screened by the existing field pattern, including hedgerows and treelines. The only interface with open views occurs where the solar infrastructure adjoins the Bird Mitigation Area; however, this is addressed through the agreed construction phasing and sequencing, ensuring that disturbance is avoided during the non-breeding period. It is however, important to note that this area does receive disturbance through

daily cropping rotations as detailed in the sHRA [EN0110012/APP/LVS/05.11] where up to six years of cropping data is provided.

- 12.13.64 Further to this, visual screening will be created through the construction of the solar infrastructure in the southern portion of Solar Development Site 1 and will act as an acoustic and visual barrier which will maintain a disturbance free Bird Mitigation Area throughout the non-breeding period.

Summary

- 12.13.65 Across the Solar Development Sites, predicted construction noise levels remain largely below 55 dB LAeq in the majority of locations with isolated areas below 63 dB, which is below the range generally associated with disturbance, particularly in this landscape where PRowS, trainlines, roads and agricultural practices exist. The small number of localised receptor points experience changes of approximately 9–11 dB, occur only at receptor points located immediately adjacent to active construction areas and where plant is operating in close range. Even in these areas absolute levels remain below 63 dB LAeq, well within the precautionary 55–70 dB screening band and far below levels typically associated with moderate disturbance (>70 dB LAeq).
- 12.13.66 Bird usage across all sites is opportunistic and irregular. During design evolution, areas identified as supporting higher numbers of qualifying species (e.g. north of Solar Development Site 1 and south of Site 4) were excluded from the Order Limits. As these fields now lie outside the Proposed Development, they will remain undisturbed and continue to function as available habitat in the wider landscape Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) [EN0110012/APP/LVS/06.02.03.02].
- 12.13.67 Construction along the Cable Route Corridor will occur over an extended period at any given location. However, the highest noise levels are associated with HDD activities, which will typically be limited to short durations of around one to two days per location. Overall, noise effects will remain temporary and works within the SSSI Impact Risk Zone will be restricted to the period April–October, thereby avoiding the most sensitive non-breeding season (November–March).
- 12.13.68 When considered alongside the embedded and precautionary measures secured through the oCEMP [EN0110012/APP/LVS/07.02], retention of screening vegetation, and the conservation and enhancement of undisturbed and undeveloped areas including the Bird Mitigation Area (which will be functional prior to construction in the non-breeding season), the potential for disturbance or displacement of non-breeding birds is assessed as temporary, localised, and of low magnitude.
- 12.13.69 The Bird Mitigation Area is spatially separated from other Solar Development Sites (> 10 km) and will be functional prior to the start of the non-breeding season, ensuring continuous, high-quality refuge for greylag goose, lapwing, golden plover and other species. Any displacement is therefore expected to be minimal.

- 12.13.70 Typically, construction noise will be at its greatest at the southern edge of the Solar Development Site 1 which adjoins to the Bird Mitigation Area, however noise attenuates rapidly, whereby the majority of the Bird Mitigation Area will be below 50 dB Figure 12.4: Predicted Construction Noise Levels at SDS 1 (ES Volume 2) **[EN0110012/APP/LVS/06.02.12.04]**). Importantly, construction in the southern portion of Solar Development Site 1 will be undertaken during the breeding season only as will the establishment of the Bird Mitigation Area, ensuring that the highest construction noise levels occur before non-breeding birds return to the area. As a result, the Bird Mitigation Area will be fully functional and undisturbed during the non-breeding period, and birds using this area are also likely to be more tolerant to baseline agricultural noise associated with farming activities that currently occur.
- 12.13.71 Where construction overlaps with the non-breeding period, once the BMA is functioning, such as in the central and northern part of Site 1 or parts of the Cable Route Corridor outside of the SSSI Impact Risk Zone effects will be short-term. During this time, the Bird Mitigation Area will remain fully available, with predicted levels remaining below 50 dB LAeq. An Ecological Clerk of Works (ECoW) will also oversee works, monitor bird activity and advise on adaptive measures as and when required.
- 12.13.72 Overall, the proposed noise associated construction activities are not predicted to give rise to significant disturbance to non-breeding birds within or adjacent to the Order Limits with the embedded noise barriers specified in the oCEMP **[EN0110012/APP/LVS/07.02]** implemented. These measures also substantially reduce the potential for visual disturbance.
- 12.13.73 Where any temporary displacement does occur, effects are expected to be short-lived and reversible. Alternative undisturbed habitat including the functioning Bird Mitigation Area within Solar Development Site 1 will remain available throughout the construction period. Taking account of predicted noise levels, existing natural attenuation, embedded noise barriers, and embedded seasonal controls, the assessment concludes that residual effects on qualifying species and the wider assemblage are slight adverse and not significant under the EIA Regulations.
- 12.13.74 With respect to visual disturbance, natural screening provided by existing hedgerows, treelines, roads and other boundary features will limit direct visibility of construction activities across the Solar Development Sites and Cable Route Corridor. Where more open views occur, temporary hoarding or screening will be installed, targeted to construction-facing boundaries as advised by the ECoW where required, to prevent line-of-sight to working areas during sensitive periods (e.g. along the Cable Route Corridor during passage within the SSSI IRZ). These measures, together with retention of existing vegetation, will maintain low-disturbance conditions for qualifying species using the Bird Mitigation Area and adjacent supporting habitat, such that residual visual disturbance effects are avoided or reduced to negligible levels. Artificial lighting will also be limited to task-specific use i.e. motion activated during infrequent maintenance activities and designed in accordance with best-practice guidance. Lighting will be directed

downward and shielded to avoid spill onto adjacent habitats, ensuring that nocturnal disturbance is avoided.

- 12.13.75 The decommissioning phase is expected to comprise activities of a similar nature to construction (e.g. plant movement, dismantling and removal of infrastructure) but over a shorter duration, with works undertaken in a phased, temporary and controlled manner.
- 12.13.76 Noise and visual disturbance controls during decommissioning will be secured through the oDEMP [EN0110012/APP/LVS/07.04], which adopts equivalent measures to the oCEMP [EN0110012/APP/LVS/07.02].
- 12.13.77 Based on the above, construction disturbance effects are assessed as **slight adverse** at international level, but **not significant**.

Operational disturbance (non-breeding birds)

- 12.13.78 No operational disturbance (maintenance and replacement activities) pathways to the Lower Derwent Valley SPA/Ramsar or Humber Estuary SPA/Ramsar are anticipated, given the separation distance. Likewise, FLL within and adjacent to the Order Limits will remain subject to very low levels of human activity, and the Bird Mitigation Area will continue to function as a low-disturbance refuge throughout the non-breeding period. As such, operational disturbance effects on both SPA/Ramsar sites are assessed as negligible and not significant.
- 12.13.79 During the operational phase of the Proposed Development, potential disturbance to non-breeding birds could arise from limited vehicle access for maintenance, infrequent human presence, and visual change associated with the static solar infrastructure. However, the operational phase will largely be characterised by low levels of activity, with routine maintenance limited to periodic visits and no continuous sources of noise or vibration. Overall activity levels will be substantially lower than those currently experienced within the Order Limits, particularly within Solar Development Site 1, where existing disturbance arises from PRow use and agricultural operations.
- 12.13.80 Operational sound emissions are not expected to exceed existing background levels recorded across the Order Limits, and there are moderate moving components or lighting likely to generate disturbance. Once operational, the solar panels and associated infrastructure will be fixed and (or) slow moving structures, and operational noise modelling predicts that noise levels will be less than 35 dB, which is negligible in terms of potential effects on birds.
- 12.13.81 The greatest change in operational noise levels occurs within Solar Development Site 2 at the BESS location (up to >45 dB LAeq; current baseline range 47-63dB). However, this area did not record significant aggregations of SPA/Ramsar qualifying species and does not meet Natural England's broad criteria for FLL.
- 12.13.82 During the operation and maintenance phase, each Solar Development Site is expected to receive approximately five maintenance visits per month, typically by LGVs.

- 12.13.83 Operational maintenance traffic will use existing access routes and internal tracks, avoiding new land take or habitat fragmentation. Vehicle movements (with the exception of replacement activities) will be infrequent and of short duration, typically associated with panel inspection, vegetation management or ecological monitoring. Noise generated from these activities is expected to remain well within the current baseline and largely within the solar array area only. There are no access routes within the proximity of the Bird Mitigation Area.
- 12.13.84 The replacement activity would be considerably less intensive than the construction phase as these are likely to be staggered and do not involve the Cable Route Corridor. Any residual effects would occur at a time when the BMA is fully functional and available to support non-breeding birds. All replacement activities within the southern portion of Solar Development Site 1 that adjoins with BMA (within 250 m) will be undertaken outside of the non-breeding period (April-August, inclusive), thereby avoiding disturbance to non-breeding qualifying species.
- 12.13.85 The design of the solar infrastructure, including perimeter fencing and internal planting, will also contribute to reducing visual disturbance and creating sheltered conditions for birds using adjacent habitats. As vegetation in both BMA and retained areas becomes fully established, the operational environment will be more stable, predictable, and lower risk for disturbance compared to the construction phase.
- 12.13.86 Artificial lighting will be limited to task-specific use i.e. motion activated during infrequent maintenance activities and designed in accordance with best-practice guidance (Ref 63). Lighting will be directed downward and shielded to avoid spill onto adjacent habitats, ensuring that nocturnal disturbance is avoided.
- 12.13.87 Public access (recreational disturbance) within and adjacent to the Order Limits will be managed through the diversion of the existing Public Right of Way and establishment of permissive paths that direct users away from sensitive habitats and the Bird Mitigation Area. This measure will effectively remove current disturbance pressures associated with public access while maintaining controlled recreational connectivity.
- 12.13.88 When considered alongside the establishment of the BMA within Solar Development Site 1 and the long-term habitat management measures outlined in Section 12.14, operational disturbance effects are assessed as **negligible** and **not significant**.
- 12.13.89 Following the installation of the Cable Route Corridor, the area will return to its previous condition. No ongoing operational disturbance is anticipated and reinstated habitats will return to their purpose consistent with the baseline conditions presented in Section 12.8.

12.14 Land take and habitat change – construction and operational (non-breeding birds)

- 12.14.1 The conservation objectives for the LDV and Humber Designated Sites include maintaining or restoring (Ref 52 and Ref 53):
- 1) The extent and distribution of supporting habitats;
 - 2) The structure and function of those habitats;
 - 3) The ecological processes on which they rely; and
 - 4) The population and distribution of qualifying bird species.
- 12.14.2 Indirect effects such as the displacement of qualifying species from FLL and potentially FLL, degradation of supporting habitats, or the long-term loss or modification of foraging and roosting areas could potentially undermine these objectives. Accordingly, impacts on FLL / potential FLL are considered relevant to the assessment of potential adverse effects on site integrity, consistent with national guidance and established case law.
- 12.14.3 Although no direct impacts are anticipated within the designated site boundaries, indirect effects remain likely through permanent loss of FLL/potential FLL and associated displacement of qualifying species. These effects are principally confined to Solar Development Sites 1, 4 and 8, where long-term land take will occur. Although bird usage within these areas was generally diffuse and opportunistic, their use by qualifying species confirms functional linkage that must be taken into account.
- 12.14.4 Solar Development Site 1 supports regular foraging by lapwing and golden plover, with threshold exceedances recorded for both lapwing and golden plover during winter 2024/25. Use was not uniform and there was no pattern of prolonged sustained maximum counts recorded across the arable fields throughout the Solar Development Site 1 boundary, indicating broad functional value as foraging habitat within a predominantly cropped landscape.
- 12.14.5 Solar Development Site 4 supports the highest diversity and abundance of qualifying species, particularly greylag goose, with a peak count of 227 individuals in February 2025 substantially exceeding the 1 % threshold for both the LDV and Humber Estuary populations. Occasional exceedances were also recorded for lapwing, golden plover and mallard. The majority of activity occurred within the southern and north-western fields, south of Pighill Nook Road. However, it is important to note that higher peak counts existed outside of Solar Development Site 4 boundary as illustrated in Appendix 12.2: Non-breeding Bird Survey Report (ES Volume 3) [EN0110012/APP/LVS/06.03.12.02].
- 12.14.6 Solar Development Site 8 supported occasional use by a wider assemblage of qualifying species, including greylag goose, golden plover, lapwing, and mallard. A 1 % threshold exceedance was recorded for golden plover, greylag and mallard during the winter period, but overall usage was infrequent and at lower densities than at Solar Development Sites 1 and 4.

- 12.14.7 The Proposed Development will lead to the long-term (60 years) transformation of arable land into solar infrastructure, including access routes and associated components. Without mitigation, this change will result in the long-term loss of FLL (Solar Development Sites 1, 4 and 8) and potential FLL, displacing qualifying species and other assemblage species such as teal and wigeon that currently use these areas opportunistically. While alternative farmland is widely available in the surrounding landscape, the functional contribution of the affected land parcels must still be replaced to maintain population levels, thus the European sites integrity, and species redistribution is unlikely to occur evenly across the region.
- 12.14.8 Portions of land where higher usage was observed in the surveys have been excluded from the Order Limits and remain undeveloped, namely the northern extent of Solar Development Site 1 and the southern extent of Solar Development Site 4. Similarly, within the Order Limits the southern part of Solar Development Site 1 will be developed as the designated Bird Mitigation Area. Whilst the retention of these undeveloped areas is likely to be intrinsic to bird species as a result of the loss of the wider landscape, in their current condition they lack the habitat diversity (managed sward height) and hydrological features necessary to replicate the lost functional resource, which is evidenced in the baseline results. For example, greylag goose were almost entirely absent from the designated retained land in Solar Development Site 1, and the observed distribution of qualifying and assemblage species did not correspond to the proposed Bird Mitigation Area. This indicates that retention alone, without targeted enhancement, would be insufficient to maintain functional equivalence.
- 12.14.9 Furthermore, while the focus of assessment lies on qualifying species, a range of non-qualifying waterbirds (e.g. teal, wigeon, gadwall) will also experience permanent habitat loss. Although these effects are not considered significant in isolation, their cumulative contribution to overall assemblage integrity and wider area warrants recognition, particularly in the context of incremental habitat loss across the local landscape.
- 12.14.10 In addition to the long-term land take associated with the Solar Development Sites, a linear and temporary loss of land will also occur along the Cable Route Corridor. Construction of this Cable Route Corridor will involve temporary ground disturbance and short-term habitat modification during cable trenching and HDD works. The majority of the Cable Route Corridor traverses intensively managed arable and improved grassland (low value) habitat and SPA species, particularly golden plover and lapwing were recorded within and surrounding the Cable Route Corridor and in some cases exceeding the 1% threshold, but these counts were irregular and not sustained (largely during late summer), these effects will be temporary and fully reversible following reinstatement. Furthermore, these areas will be monitored dynamically by an ECoW to avoid disturbance to large aggregations of these species.
- 12.14.11 Given the embedded reinstatement measures and the small proportional loss relative to available foraging habitat in the wider landscape, effects arising from the Cable Route Corridor are assessed as **minor adverse and not significant**.

- 12.14.12 Supporting analysis presented within the supporting sHRA [EN0110012/APP/LVS/05.11] provides species-specific calculations of site wide (all Solar Development Sites) use based on bird-day estimates for golden plover, lapwing and greylag goose. The amount of area required for the Bird Mitigation Area is broadly derived from the calculations are considered precautionary and underestimates of overall functional value due to the restricted species set and temporal coverage. Accordingly, the findings of the sHRA [EN0110012/APP/LVS/05.11] are treated as supporting and supplementary evidence rather than definitive and have been interpreted in the context of wider survey data, professional judgement, and proposed enhancement measures to inform this assessment and the development of the Bird Mitigation Area.
- 12.14.13 The analysis determined that a minimum 30.5 ha of land (without enhancements) is required to sustain the observed level of use across the Solar Development Sites Order Limits. This value forms the basis for the design of the Bird Mitigation Area located within Solar Development Site 1.
- 12.14.14 The retention of land within the Bird Mitigation Area is treated as embedded mitigation however, enhancements or targeted habitat creation within that Area are not considered embedded. Other habitat enhancement and creation that are embedded in the design for BNG purposes such as ditch enhancements will be beneficial to dabbling ducks (mallard, teal- not limited to.) and will increase connectivity, carrying capacity and resource availability across the Order Limits.
- 12.14.15 Consequently, in the absence of these measures, the permanent loss of FLL/potential FLL (primarily within Solar Development Sites 1, 4, and 8) is considered to result in a **moderate adverse** effect at the international scale (and is therefore **significant**). This reflects the confirmed functional use of these areas by qualifying species and the essential role they play within the wider LDV/Humber ornithological network.
- 12.14.16 Full methodology, assumptions and species-specific calculations are presented in the sHRA [EN0110012/APP/LVS/05.11], where functional linkage and site-integrity implications are assessed in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended).

Additional mitigation and residual effects

- 12.14.17 To preserve and enhance the ecological and ornithological functions of the FLL within the Order Limits and the surrounding landscape, the Bird Mitigation Area of approximately 60.1 (65.7 including the 50 m offset from the boundary) hectares has been designated in the southern extent of Solar Development Site 1 for enhancement and targeted habitat creation. This location was selected due to the presence of qualifying habitats and bird species that contribute to the wider assemblage, as well as the opportunity to enhance existing and retained ditches to promote natural hydrological conditions. The Bird Mitigation Area will comprise a disturbance-free, mosaic of open, wet grassland, shallow scrapes and seasonal surface-water features, specifically designed to support wintering and passage

waders and wildfowl, including lapwing, golden plover, greylag goose and curlew (but not limited to).

- 12.14.18 These measures will increase habitat quality and ecological resilience. The BMA was chosen because it lies within a SSSI Impact Risk Zone and represents the closest part of the Order Limits to the Lower Derwent Valley SPA and Ramsar site, thereby providing strategic ecological connectivity and contributing to the protection of these internationally designated areas.
- 12.14.19 The entirety of the Bird Mitigation Area will be functioning prior to the commencement of the construction in the non-breeding season, defined in paragraphs 12.9.18. The area has been calculated and designed to offset the estimated loss of foraging habitat for key qualifying species, providing an uplift of and quality and undisturbed open feeding and roosting ground.
- 12.14.20 Given the quality and functionality of the Bird Mitigation Area, qualifying species and those part of the wider waterbird assemblage such as greylag goose, lapwing, and golden plover (not limited to) will have access to optimal, undisturbed foraging and roosting habitat throughout the construction period. Consequently, any temporary displacement during of the construction of the Bird Mitigation Area itself will be de minimus, with birds expected to continue utilising the Bird Mitigation Area and surrounding habitats without significant adverse effect.
- 12.14.21 The retention of land within Bird Mitigation Area and the implementation of habitat enhancements and creation within it have been specifically designed to act as a redistribution site, enabling non-breeding bird species (particularly those associated the HE and LDV) displaced from development areas to relocate to nearby habitat of desirable structure and function. The combination of open sightlines, shallow wet features and seasonally wet grassland will attract returning flocks within a period following establishment. It is also likely that the populations will benefit positively creating growth.
- 12.14.22 In addition to offsetting displacement effects, the habitat mosaic will provide enhanced foraging diversity and refuge opportunities during periods of high water or disturbance within surrounding farmland, thereby increasing the local resilience and carrying capacity of non-breeding assemblages. The wet features are expected to promote invertebrate productivity and seed-rich vegetation, supporting prey availability for dabbling ducks (recorded in low numbers) and waders such as teal, wigeon and lapwing. Over time, this managed landscape is likely to act as a 'hot spot' area contributing to local population stability or growth, consistent with the conservation objectives of the Humber Estuary and Lower Derwent Valley SPAs. As such, the Bird Mitigation Area is considered to provide considerable benefit to SPA bird species above mitigation requirements.
- 12.14.23 The Natural England (2016) evidence review does not provide species-specific data for wintering waders and wildfowl, it concludes that well-designed solar PV farms present low ecological risk and that behavioural responses by birds are typically localised, temporary and reversible. The review highlights that post-construction land management-particularly low-intensity grazing, pesticide-free

regimes, varied sward structure and the creation of wet features and can deliver substantial ecological enhancement compared with arable baselines, and in some cases function as ecological refuges within intensively farmed landscapes. These findings support the design and management principles of the Bird Mitigation Area, which incorporates structurally diverse wet grassland, scrapes and open sightlines tailored to the requirements of the non-breeding assemblage. While NEER012 does not assess SPA/Ramsar species directly, its conclusions reinforce that the embedded habitat enhancements are consistent with best practice and are expected to maintain or improve the functional value of land available to non-breeding birds.

- 12.14.24 With the mitigation and management measures secured through the oLEMP [EN0110012/APP/LVS/07.05] and oBMAMP [EN0110012/APP/LVS/07.19], displaced birds are expected to redistribute and thrive within the local area rather than be lost from the assemblage. Accordingly, the residual effect on designated sites, qualifying non-breeding species, associated assemblages and FLL is assessed as **minor beneficial** at an international scale (**not significant**), representing a net ecological and ornithological gain in functional foraging resource within the local context.
- 12.14.25 Further assessment of breeding birds and associated mitigation are presented in Section 12.16 onwards.

12.15 Decommissioning phase - Bird Mitigation Area

- 12.15.1 The oBMAMP [EN0110012/APP/LVS/07.19] which secures ornithological management and monitoring throughout the operational life, includes repeat surveys at five-year intervals, after the first 5 years of operation. These surveys will provide a long-term evidence base on the use of the BMA by non-breeding waterbirds. Consequently, at the point of decommissioning, information will be available for a period of 50+ years from baseline and there will be a detailed understanding of the ecological and ornithological value that has developed within the BMA.
- 12.15.2 Notwithstanding the availability of this information, the security of the BMA is for a time-limited consent and, following decommissioning, the land will be returned to the respective landowners. The long-term retention and management of habitats created for birds therefore cannot be guaranteed as the landowners will determine if they want the Applicant to return the land to its original use. Future land use decisions beyond the point that the Applicant returns the land to landowners, including whether grassland and wetland features are retained or reverted to agriculture, will then rest with the landowners
- 12.15.3 The final BMAMP will enable an informed assessment of:
- 1) The importance of the BMA;
 - 2) The frequency and abundance of non-breeding birds using the BMA; and
 - 3) The contribution of the habitats to local to international bird populations.

- 12.15.4 This evidence will guide the application of the mitigation hierarchy at that time, including opportunities to retain the most valuable habitats, adapt management prescriptions, or provide replacement habitat where necessary.
- 12.15.5 A credible worst-case scenario remains that, in returning the land to the landowners, the landowners could require that the Applicant revert parts of the BMA to arable and (or) intensively managed grassland. This could lead to reduced suitability for non-breeding waterbirds through increased fertiliser and pesticide use, changes in sward structure and greater disturbance from machinery. Should such changes occur without retention or mitigation, a **moderate adverse** effect of up to international importance could arise. However, the likelihood and scale of this effect will be substantially better understood through the 50+ year BMA monitoring data available at that time.
- 12.15.6 Pre-decommissioning ornithological surveys, informed by the preceding BMAMP monitoring will be undertaken to confirm the status of bird populations and habitat condition immediately prior to decommissioning. The findings will determine whether additional mitigation or compensation is required to meet legislation and policy then in force. Implementation of such measures through the DEMP and is expected to reduce residual effects on farmland breeding birds and wintering waterbirds to **negligible or minor adverse**, which would be not significant in EIA terms.
- 12.15.7 The oDEMP [EN0110012/APP/LVS/07.04] establishes the mechanism by which these decisions will be implemented. The final DEMP will incorporate the results of BMAMP monitoring and pre-decommissioning surveys to secure appropriate protection or replacement of habitats supporting farmland breeding birds and non-breeding waterbirds.

12.16 Breeding birds and supporting habitats (terrestrial and riparian)

Construction, operational and decommissioning disturbance

- 12.16.1 Construction, operational (note that this applies to replacement activities) and decommissioning activities have the potential to cause temporary disturbance to breeding birds through increased noise, visual intrusion, vibration and human presence. In addition, there is a risk of direct damage to active nests if vegetation clearance or ground works are undertaken during the breeding season (March–August inclusive).
- 12.16.2 Operational activities will be limited to infrequent maintenance and replacement works and will not result in sustained noise, lighting or human presence. As such, operational disturbance to breeding birds is expected to be negligible and comparable to existing agricultural activity within the surrounding landscape.
- 12.16.3 These potential impacts will be effectively managed through embedded measures secured via the oCEMP [EN0110012/APP/LVS/07.02], including:

- 1) Timing of vegetation clearance and soil stripping to avoid the core breeding season unless pre-works checks confirm absence of nesting activity;
- 2) Pre-commencement nesting checks and surveys (licensed if required) and ecological supervision and monitoring by an Ecological Clerk of Works (ECoW);
- 3) Functionality of the BMA during the second season of construction;
- 4) Retention of hedgerows, tree lines and field margins where practicable;
- 5) Use of temporary fencing and exclusion zones around retained habitats;
- 6) Dust and lighting controls as set out in Chapter 16: Other Environmental Matters (ES Volume 1) [EN0110012/APP/LVS/06.01.16] and the oCEMP [EN0110012/APP/LVS/07.02].

12.16.4 One Schedule 1 species, barn owl, was recorded as potential breeding within the Order Limits. Pre-construction surveys will be undertaken to locate any active nests or roosts, with appropriate exclusion zones (typically up to 175 m as per standard industry guidance (Ref 61)) established where necessary to avoid disturbance. Works will be timed outside the breeding period or subject to specific ECoW oversight to prevent disturbance to nesting adults or dependent young.

12.16.5 Anecdotal evidence from local residents suggests that the local barn owl and associated boxes, specifically within Solar Development Site 1 are not currently monitored and (or) are maintained. Nevertheless, a precautionary approach will be applied, with pre-construction checks undertaken by a suitably experienced and licensed ecologist, where required. Furthermore, barn owl sites that are identified will temporarily be soft-blocked during the core winter months (December and January) if required.

12.16.6 In addition, the suitable breeding habitat / features survey which is fully presented in Appendix 12.3 Breeding Bird Survey Report – Solar Development Sites 6-8 (ES Volume 3) [EN0110012/APP/LVS/06.03.12.03] identified features within and adjacent to the Solar Development Sites and the Cable Route Corridor that may provide breeding or foraging potential for other Schedule 1 species, including barn owl, hobby, red kite, peregrine, and kingfisher. These species were recorded within the Study Area during field surveys and desk study review. Although no active nests were confirmed during baseline fieldwork, the following measures will apply under the guidance of a suitably experienced ECoW (which apply for both ground nesting and Schedule 1 birds):

- 1) Targeted pre-construction surveys and checks of suitable habitat features (e.g. mature trees, pylons, riverbanks, and copses, as identified during the baseline surveys), where these species are considered likely to occur;
- 2) Temporary soft blocking of nest sites – trees/buildings/boxes (if required);
- 3) Implementation of appropriate stand-off buffers from any active nests if discovered (in line standard industry best practice guidance (Ref 60)); and
- 4) ECoW-led oversight and monitoring during high-disturbance activities within proximity of potential nesting habitat, if applicable.

- 12.16.7 Note that the overseeing ECoW during the breeding bird period (April to August, inclusive) will follow the Nesting Bird Guidance (Ref 67; currently in draft).
- 12.16.8 The results of the Suitable Breeding Bird Habitat / Feature surveys indicated that the majority of potential features for Schedule 1 species are located in peripheral areas of the Solar Development Sites or along linear corridors (hedgerows, tree lines, riparian features) that will be largely retained. Consequently, the risk of direct effects on breeding Schedule 1 species is low and will be effectively mitigated through the above measures.
- 12.16.9 Although some temporary displacement of faithful ground-nesting birds may occur in areas of active construction, these species are typically mobile, flexible in territory placement, and capable of relocating to nearby suitable habitat. Large areas of similar-quality arable habitat remain available, undeveloped adjacent to the Order Limits, and breeding densities recorded during baseline surveys were generally low and dispersed.
- 12.16.10 Further to this, the ground-nesting species recorded during the baseline surveys, including lapwing and skylark, typically initiate nesting from mid-April onwards, and are therefore unlikely to have active nests present at the start of April when construction commences. The commencement of construction is likely to deter these species naturally. The short-term and non-recurrent nature of construction disturbance, combined with the retention of surrounding habitats and availability of alternative nesting areas, ensures that no long-term population-level or cumulative effects on breeding bird assemblages are anticipated.
- 12.16.11 It is also important to note that construction-related disturbance to and (or) displacement of ground-nesting breeding birds will occur over a single season only, and the Bird Mitigation Area has been designed to function as a high-quality, undisturbed nesting and foraging resource capable of accommodating ground-nesting birds temporarily displaced from construction areas.
- 12.16.12 Taking into account of the embedded mitigation and procedural mitigation to be implemented through the oCEMP [EN0110012/APP/LVS/07.02] and oDEMP [EN0110012/APP/LVS/07.04], construction and decommissioning related disturbance to breeding birds, including Schedule 1 species, is predicted to be temporary, localised and **not significant (minor adverse)** at a local scale.

Operational disturbance (breeding birds)

- 12.16.13 During the operational phase, disturbance to breeding birds is anticipated to be limited and infrequent. Routine site activities will comprise low-intensity maintenance such as periodic panel washing, electrical inspections, grass cutting, and access checks, typically undertaken a few times per year. These activities will be short in duration, localised, and primarily restricted to existing access tracks and operational compounds.
- 12.16.14 All operational maintenance will be undertaken in accordance with the oLEMP [EN0110012/APP/LVS/07.05] and the oOEMP [EN0110012/APP/LVS/07.03], which sets out timing restrictions to avoid the core breeding season (March–

August inclusive) wherever practicable. Where maintenance activities must occur during this period, pre-works nesting checks will be carried out by a suitably qualified Ecological Clerk of Works (ECoW) within areas identified as suitable during the Suitable Breeding Bird Feature Assessment. These areas may vary over time in response to habitat management and seasonal conditions and will therefore be dynamically monitored under the oLEMP **[EN0110012/APP/LVS/07.05]**. Appropriate exclusion zones will be established around any active nests identified to prevent disturbance until breeding activity has ceased as detailed in the oOEMP **[EN0110012/APP/LVS/07.03]**.

- 12.16.15 During replacement activities, the same principals set out during construction will also apply, with works avoided during the core breeding bird period where practicable. For the southern section of Solar Development Site 1, where operational activities must occur during the breeding season due to the requirement to avoid winter disturbance to non-breeding SPA/Ramsar species, pre-season monitoring will be undertaken by the ECoW to determine the presence of any ground-nesting birds and Schedule 1 birds.
- 12.16.16 Where required, temporary habitat manipulation (e.g. maintaining long sward height to discourage nesting) may be used to create sub-optimal conditions for species that might otherwise attempt to nest close to the solar array along the interface with the Bird Mitigation Area. A 50 m offset from the Bird Mitigation Area boundary is maintained, reflecting the preference of skylark and lapwing for large open fields with clear sightlines, reducing the likelihood of nests occurring adjacent to the working area. Accordingly, any replacement activities will be planned and implemented on a case-by-case basis, informed by ECoW advice and legally compliant measures to ensure no disturbance to active nests.
- 12.16.17 Public access will be actively managed through fencing and diversion of existing Public Rights of Way (PRoW) around the Order Limits, as well as the establishment of permissive paths that direct users away from sensitive breeding and non-breeding habitats and the Bird Mitigation Area (paragraph 12.9.29). These measures will minimise the potential for recreational disturbance to nesting birds.
- 12.16.18 Once fully operational, the solar infrastructure will generate no continuous noise (above 35 dB) or vibration. the greatest change in operational noise levels occurs within Solar Development Site 2 (up to >45 dB LAeq). However, this area did not record significant aggregations of breeding birds and the predicted noise levels are comparable to the current baseline. Operational noise changes in this location therefore present no credible pathway to affect breeding birds and it is likely that birds will become well habituated to this low noise as they have done with the existing baseline (<50 dB) as this will be long-term.
- 12.16.19 Cable connections within the Cable Route Corridor will be located underground and will not generate operational traffic. Occasional maintenance access may be required, but this is expected to occur only once or twice per year and will result in negligible disturbance and will be similar to what the areas existing baseline i.e. PRoWs.

- 12.16.20 The predicted increase in daily traffic associated with operational maintenance is well below the 10% threshold identified in the IEMA Guidelines for the Environmental Assessment of Road Traffic and is therefore categorised as negligible. As these infrequent trips fall substantially below levels that could give rise to noise or visual disturbance for qualifying species or the wider waterbird assemblage, no additional mitigation is required, and residual effects remain as reported.
- 12.16.21 Replacement activities would be intermittent, short-term and localised, occurring on a site-by-site basis over the operational lifetime of the Proposed Development rather than simultaneously across all Solar Development Sites. As set out in Appendix 14.1: Transport Assessment (ES Volume 3) [EN0110012/APP/LVS/06.03.14.01], replacement traffic volumes would be substantially lower than those experienced during the construction phase and comparable with, or only marginally above, routine maintenance activity. Replacement works would typically involve limited numbers of vehicle movements over short durations, using established access routes and internal tracks, and would not result in sustained increases in traffic flows or associated noise and visual disturbance. It is important to note that no traffic intercepts or encroaches the BMA.
- 12.16.22 Artificial lighting will be limited to specific locations (control rooms) and task-specific use i.e. motion activated during infrequent maintenance activities and designed in accordance with best-practice guidance (Ref 63). Lighting will be directed downward and shielded to avoid spill onto adjacent habitats, ensuring that nocturnal disturbance is avoided as specified in the oOEMP [EN00110012/APP/LVS/07.03].
- 12.16.23 When considering all of the above and the low intensity of operational activities, which will be limited to the Solar Development Sites alone, the absence of continuous disturbance sources, and the implementation of long-term habitat management through the creation of the Bird Mitigation Area (detailed in Section 12.9), operational disturbance effects on breeding birds are assessed as **negligible and not significant**.

12.17 Land loss and habitat change – construction and operational (breeding birds)

- 12.17.1 Construction of the Proposed Development will result in the long-term conversion of arable land to solar infrastructure, access tracks and ancillary infrastructure, leading to a reduction in the availability of open arable fields that currently support farmland and ground-nesting birds such as skylark, lapwing and yellow wagtail.
- 12.17.2 Hedgerows, lines of trees, field margins, ditches (all of which are of county level importance) and small copses will be retained, enhanced. Any loss will be compensated where losses occur across the Order Limits (Solar Development Sites and Cable Route Corridor) and will continue to support and increase a range of boundary thriving species such as dunnock, blackbird, yellow hammer and bullfinch (not limited to), as well as Schedule 1 species. The oLEMP

- [EN0110012/APP/LVS/07.05]** prescribes sympathetic management of these features, including rotational cutting and avoidance of works during the breeding season, ensuring their long-term contribution to local breeding assemblages.
- 12.17.3 Further to this, Anecdotal evidence from Escrick Park Estate indicated that yellowhammer numbers in the surrounding agricultural landscape have declined in recent years. Yellowhammer is closely associated with hedgerows, field margins and scrub for nesting and foraging, and is therefore not primarily reliant on the open arable habitats lost to the Proposed Development. The creation of new hedgerows and the enhancement of existing boundary features throughout the Order Limits and secured in the prepared oLEMP **[EN0110012/APP/LVS/07.05]** are expected to improve habitat availability and connectivity for yellowhammer locally and is likely to contribute positively to the local population over the long term.
- 12.17.4 Central habitats which are to be lost long-term are of local importance i.e. arable land. Although these habitats are of limited in value and botanical diversity, they provide nesting opportunities for open-ground nesting species reliant on bare or sparsely vegetated substrates.
- 12.17.5 Across the Solar Development Sites, it is anticipated that between 27 and 32 skylark territories will be displaced as a result of the Proposed Development (this includes areas adjacent to the Solar Development Sites Order limits). It is important to note that 27 territories is derived from within the boundary of the Order Limits and 32 represents a worst-case scenario should birds be impacted indirectly via the change of landscape throughout the Order Limits (i.e. southern extent of Solar Development Site 4 and the Northern Extent of Solar Development Site 1, which have been excluded from the Order Limits) Figure 3.2: Changes in the Order Limits between PEIR and DCO Application Submission (ES Volume 2) **[EN0110012/APP/LVS/06.02.03.02]**.
- 12.17.6 Although skylark remains a Red-listed species under BoCC, local and national monitoring indicate that the population is stable and (or) recovering. Data from the YOC (Ref 38) show a year-on-year increase of more than 60% in records across the Lower Derwent Valley recording area. Nationally, the BTO Trends Explorer (Ref 35) shows that the English skylark population index has risen by approximately 25–30% since 2013.
- 12.17.7 According to the BTO Data Report (Regional scale: Yorkshire and the Humber), skylark is not identified as notable for breeding, representing less than 2% of the regional range and abundance thresholds, with a positive local abundance change of +0.10 relative to the Order Limits compared to the wider region. Within the Order Limits, the predicted loss of around 27–32 territories therefore represents a small and localised change across an expansive landscape which is considered suboptimal quality based on the low records recorded. However, the population is currently increasing at both regional and national scales.
- 12.17.8 Further to this, other territories lost as a result of the Proposed Development also include:

- 1) Three lapwing territories (potentially two territories due to the retention/undeveloped land as part of the design evolution);
- 2) Three corn bunting territories;
- 3) Two yellow wagtail territories;
- 4) Four reed bunting territories;
- 5) One mallard territory;
- 6) One meadow pipit territory; and
- 7) One grey partridge territory.

- 12.17.9 According to the BTO Data Report (Regional scale: Yorkshire and the Humber) (Ref 35), none of these species, with the exception of grey partridge and corn bunting, are identified as regionally notable for breeding abundance. Grey partridge and corn bunting exhibit notable breeding abundance values (3.7% and 4.7% of the regional population respectively), indicating localised concentrations within the wider agricultural landscape, both supported by slightly positive local abundance change values (+0.007). Lapwing shows a significant negative relative abundance change (-0.23) consistent with the species' wider national decline but is not considered regionally notable (as shown in plate 12-1 in Section 12.8). Yellow wagtail and meadow pipit show modest negative changes (-0.12 and -0.08 respectively), whereas reed bunting remains stable (+0.02). The combined loss of these territories represents a very small proportion of their respective local populations, all of which remain widespread within the Lower Derwent Valley and surrounding farmland.
- 12.17.10 It is important to note that these territory figures represent possible to probable breeding activity, based on behavioural indicators and territory mapping, rather than confirmed nests or verified breeding success outputs. As such, the estimates reflect potential territory occupancy rather than demonstrated productivity. This distinction is significant as the ecological consequence of territory loss is dependent not only on presence, but on whether those territories contribute meaningfully to the population maintenance and long-term viability. In the absence of evidence of successful breeding output, the predicted losses should therefore be considered precautionary and may overstate the actual functional contribution of these territories to local population dynamics.
- 12.17.11 With the embedded measures of retaining boundaries, field margins, tree lines and the retention of land that is designated as the Bird Mitigation Area (detailed in Section 12.9), there will be an extensive area of land to mitigate the number of displaced territories. However, it is important to note that although extensive area exists, the area currently lacks high concentrations of the bird species listed above, which could potentially be due to current disturbance pressures, lack structural diversity and management necessary to function as optimally for ground nesting birds such as those listed above.
- 12.17.12 Without habitat enhancements and the retained land alone, LSEs are likely to be moderate adverse, significant at a local level.

Additional mitigation and residual effects

- 12.17.13 Fox (Ref 69) identified a national mean skylark density of 0.27 territories ha⁻¹ across natural grassland, which would equate around 100-118 ha of natural grassland required to support the skylark territories respectively. The BMA will provide up to 65.7 ha.
- 12.17.14 However, the above metric, does not account for the uplift in habitat quality which will be achieved in the BMA through dynamic management, including phased cutting, light aftermath grazing, rotational resting, lack of chemical use and maintenance of open sightlines and the absence of PRowWs. Managed skylark plots and grassland under environmental stewardship schemes have been shown to support higher densities (Ref 58) (Ref 59).
- 12.17.15 As such, to address the residual effects associated with the loss of open arable habitat, the designated Bird Mitigation Area within Solar Development Site 1 measuring approximately 61 ha (with 50 m buffer) and 65.75 ha (without buffer) will be managed to deliver enhanced breeding and foraging conditions for ground-nesting farmland birds, particularly skylark, lapwing, corn bunting, yellow wagtail, mallard and meadow pipit.
- 12.17.16 Although skylark is not identified as a notable breeding species within or near to the Proposed Development compared to all geographical scales within the BTO Data Report, its local population within the Lower Derwent Valley shows strong utilisation of open farmland, with an estimated c. 60% increase in records since 2019 (Ref 34) and a positive local abundance change of +0.10 (Ref 55). This indicates a stable or recovering population. Conversely, lapwing populations remain in decline across all spatial scales, with the Lower Derwent Valley identified as an area of high nesting density but consistently poor breeding success due to predation and agricultural pressures. The Proposed Development therefore represents both a risk and an opportunity: while some open arable fields will be lost, this is counterbalanced by the creation of secure, managed grassland capable of sustaining breeding effort and success under controlled, managed and monitored conditions.
- 12.17.17 Consultation with the 'Friends of the Lower Derwent Valley' and Natural England's Senior reserve manager has confirmed broad support for the proposed Bird Mitigation Area and its management approach. The group noted that the creation of seasonally wet grassland and open pasture aligns closely with local conservation objectives and is likely to provide wider ecological benefits beyond those required for mitigation. In particular, the reserve manager highlighted the potential for the Bird Mitigation Area to contribute positively to the ongoing corncrake reintroduction and breeding programme within the Lower Derwent Valley, as the proposed habitat management regime comprising low-intensity grazing, delayed cutting and structural heterogeneity is consistent with the species' breeding requirements. Corncrake are identified as a national notable breeding bird species as per the BTO Data Report (Section 12.8). This species was not recorded during any of the field surveys.

- 12.17.18 The Bird Mitigation Area during the breeding season will be managed as a mosaic of improved pasture, short sward grassland and shallow wet features, providing suitable nesting and foraging conditions throughout the breeding season.
- 12.17.19 Key management principles will include:
- 1) Light grazing in late winter, or timed rotational cutting (mob cutting) to create open and varied sward and encourage invertebrate availability;
 - 2) Post-breeding (late summer; post August) cutting regime to maintain structural diversity and allow successful fledging;
 - 3) Surface soil scraping, to create areas of bare ground in March (lapwing);
 - 4) Prevention of disturbance due to diverted PRow and cessation of farming practices;
 - 5) No pesticides use;
 - 6) Rotational resting to prevent uniform sward development; and
 - 7) Monitoring-led management under the oLEMP **[EN0110012/APP/LVS/07.05]** and oBMAMP **[EN0110012/APP/LVS/07.19]**, including annual territory mapping and adaptive adjustment of grazing/cutting schedules.
- 12.17.20 Although the Bird Mitigation Area (up to 65.7 ha) supports approximately 52 % of the total area required for full replacement of 27–32 skylark territories (based on Fox 2022 densities metric), its quality uplift through targeted management is expected to deliver functional equivalence or greater, consistent with other managed skylark habitats. The inclusion of shallow scrapes, wet depressions and retained margins while primarily intended for non-breeding waders will also provide indirect benefits to skylark and breeding lapwing, supporting chick foraging and moisture-rich feeding areas during dry periods. Lapwing are identified one of ten species nationally declining bird species within or near to the Order Limits compared to England as per the BTO Data Report (paragraph 12.8.33).
- 12.17.21 The Natural England evidence review on the ecological impacts of solar farms (Ref 68) provides clear support for the mitigation strategy adopted for the Proposed Development. The review concludes that solar PV sites, when managed under low-intensity regimes, can increase ecological value relative to arable baselines, with grassland beneath and between arrays frequently becoming more botanically diverse and structurally varied than surrounding farmland. This enhancement in structural diversity is associated with improved invertebrate availability and increased suitability for a range of bird species, including ground-foraging waders and passerines.
- 12.17.22 The same review identifies that well-designed solar farms can function as ecological refuges, supporting species that are otherwise sensitive to intensive agricultural practices. It notes that grassland under panels often develops a more favourable sward structure due to reduced fertiliser inputs, pesticide restrictions,

and periodic grazing, contributing to higher biodiversity compared with arable land.

- 12.17.23 The above aligns with the embedded and additional mitigation for the Proposed Development, which includes extensive grassland creation, wetland enhancement and the management of these habitats through low-intensity grazing or rotational cutting.
- 12.17.24 Furthermore, bird boxes such as A-frames (barn owl/kestrel) will be put in place throughout the Solar Development Sites, two per Development Site (total of 12), as well as tree sparrow boxes. Although tree sparrow are not predicted to be impacted by the Proposed Development given that no individuals were recorded during the breeding or wintering bird surveys, they were identified within the desk-study area and are considered a species of local conservation concern. Provision of species-appropriate tree sparrow boxes therefore represents a proactive enhancement that may support the wider population by increasing the availability of suitable nesting opportunities within the local landscape. Boxes will be installed in small clusters to reflect the species' semi-colonial nesting behaviour, positioned on suitable trees or structures at appropriate heights and orientations to maximise uptake. Retained margins will be managed as permanent rough grassland to strengthen habitat connectivity for small mammals. Evidence shows that wide, tussocky rough grassland supports markedly higher vole abundance and hunting success for barn owl and kestrel than narrow or poorly structured strips, which offer limited prey and cover. The above boxes are secured in the oLEMP [EN0110012/APP/LVS/07.05].
- 12.17.25 In combination of embedded and additional mitigation, these measures are expected to provide a net positive ornithological outcome for locally breeding farmland and ground-nesting birds, offsetting the majority of residual losses identified under Section 12.16. While full numerical replacement produced by a simple metric of all territories cannot be guaranteed, the proposed additional mitigation and management will ensure that suitable, undisturbed and structurally diverse habitat remains available within the local landscape. Residual effects on breeding skylark, lapwing and associated ground nesting bird assemblage species are therefore assessed as **minor adverse** to **neutral** (not significant) at the national scale, subject to successful implementation of the oLEMP [EN0110012/APP/LVS/07.05] and monitoring programme

12.18 Other environmental matters

Glint and Glare

- 12.18.1 Solar photovoltaic (PV) panels can generate solar reflections ("glint") that may be visible to overflying birds under certain atmospheric and sun-angle conditions. In the absence of detailed flight-line data linking the designated sites and the FLL, a review of the recorded flight activity indicates no consistent or directional patterns of regular movement across the Proposed Development. While occasional large flocks, such as up to 100 whooper swans recorded during a

single observation were observed flying overhead, these flights appeared opportunistic and dispersed rather than following a defined route.

- 12.18.2 There is very limited research of this effect in the UK, with the main studies associated with very large solar farms in desert regions, which are not comparable with the UK. It is noted that a NE 2016 report (Ref 68) 'Evidence review of the impact of solar farms on birds, bats and general ecology' makes no reference to evidence of glint and glare, as such there are no known cases of waterbirds colliding with solar panels. This approach reflects those taken in other projects i.e. East Yorkshire Solar and Frodsham Solar.
- 12.18.3 The evidence review also notes that while PV panels can produce polarised reflections under certain conditions, there is no robust evidence that such reflections have caused systematic collision risk or significant disturbance to birds at operational PV sites. Potential interactions were judged to be low risk and manageable through site-specific design, with solar farms in temperate agricultural landscapes considered unlikely to pose notable glint-related hazards to avifauna.
- 12.18.4 Given the absence of recorded collision incidents in the UK, the lack of evidence linking PV glint and avian mortality in the Natural England review (Ref 68), and the non-directional pattern of baseline bird movements across the Order Limits, glint and glare effects are assessed as negligible and are not expected to give rise to significant adverse effects on qualifying species. This approach is consistent with that taken for other UK PV NSIPs, including East Yorkshire Solar and Frodsham Solar.

12.19 Summary

- 12.19.1 Overall, with the embedded and additional mitigation secured through the oCEMP [EN0110012/APP/LVS/07.02], oLEMP [EN0110012/APP/LVS/07.05] and oDEMP [EN0110012/APP/LVS/07.04] residual effects on ornithological receptors are assessed as minor beneficial at a local and international scale and not significant in EIA terms.
- 12.19.2 Given the strength of the baseline dataset, the scale and design of the Bird Mitigation Area, confidence in these residual effect predictions is considered high.
- 12.19.3 Table 12-22 presents the assessment summary detailing further mitigation requirements and residual effects.

Table 12-22 Ornithology - preliminary assessment summary

	Receptor/aspect and sensitivity /value /importance	Description of impact	Magnitude	Significance of effect	Additional mitigation	Residual effect and significance
Construction						
	LDV and Humber SPA/Ramsar Designated Sites and FLL – High sensitivity. Species recorded in > 1 % of SPA population thresholds (golden plover, lapwing, greylag goose)	FLL – High sensitivity. Species recorded in > 1 % of SPA population thresholds (golden plover, lapwing, greylag goose); also present in nationally relevant numbers (common gull, black-headed gull). Temporary and long-term habitat loss (FLL); short-term noise, vibration and visual disturbance; temporary displacement of qualifying species within FLL during construction.	Medium to High-worst-case assumes concurrent activity within or adjacent to FLL. Embedded measures (buffers, timing, pollution control) will reduce duration and extent.	Moderate adverse (potentially significant without mitigation).	Pre-construction checks to identify concentrations of SPA species; establishment of 61.7 ha Bird Mitigation Area (seasonally wet grassland, scrapes and low-disturbance zones); adaptive ECoW supervision; timing to avoid core winter period; and temporary hoarding or solid fencing along the boundary between active work areas and the Bird Mitigation Area within Solar Development Site 1 to reduce residual visual disturbance while vegetation screening is immature.	Minor adverse (not significant). Acoustic disturbance below 60 dB LAeq; displaced birds expected to redistribute into the Bird Mitigation Area; residual visual effects at Solar Development Site 1 minimised through temporary hoarding/fencing.

	Receptor/aspect and sensitivity /value /importance	Description of impact	Magnitude	Significance of effect	Additional mitigation	Residual effect and significance
	Terrestrial and Riparian Habitats Supporting Breeding Birds- Medium to High sensitivity (Schedule 1 and ground-nesting species e.g. skylark, lapwing, yellow wagtail, reed bunting).	Temporary and permanent loss of open arable habitat; risk of nest disturbance or damage; noise/visual intrusion during construction phase.	Moderate (worst-case assumption; potential nest loss if uncontrolled).	Moderate adverse (precautionary).	Embedded oCEMP measures – seasonal timing for full vegetation clearance and cutting where practicable (March to August, inclusive), ECoW checks, nest exclusion zones (up to 175 m for barn owl), retention of hedgerows and watercourses; species-rich grassland creation; installation of barn owl boxes.	Minor adverse (not significant) - temporary disturbance only; no long-term population loss expected.
Operation						
	LDV and Humber SPA/Ramsar FLL – High sensitivity (> 1 % SPA threshold species: golden plover, lapwing and greylag goose)	Long-term land-take and conversion of arable FLL to solar arrays; potential loss of foraging/roosting resource; low-frequency operational disturbance; potential glint and glare effects.	Medium due limited use of solar arrays anticipated; glint/glare effects negligible due to panel finish and lack of directional flight lines.	Moderate adverse (potential long-term functional loss without mitigation).	Bespoke Bird Mitigation Area (61.7 ha) providing alternative disturbance free, wet grassland habitat; post-construction monitoring and adaptive management under oLEMP; screen planting to reduce glare/visual effects.	Minor adverse to minor beneficial (not significant) - managed the Bird Mitigation Area and enhancements throughout the Order Limits are expected to

	Receptor/aspect and sensitivity /value /importance	Description of impact	Magnitude	Significance of effect	Additional mitigation	Residual effect and significance
						support target species and enhance local assemblage resilience.
	Terrestrial and Riparian Habitats Supporting Breeding Birds- Medium sensitivity (open-ground and boundary nesters).	Long-term loss of open nesting habitat within solar arrays; shading and structural change; infrequent maintenance disturbance; no continuous noise/vibration.	Low to medium	Minor to Moderate adverse (for open-ground species e.g. skylark, lapwing).	Retain and manage off-array open grassland; maintain low sward under LEMP; monitor ground-nesting activity; provide barn owl and other nest features.	Minor adverse (not significant) to neutral-habitat loss offset by managed areas and managed disturbance (BMA). Note that the above applies to ground nesting bird species only. Non-ground nesting species will benefit greatly as a result of planting, retention and enhancement of ditches (not limited to)

Receptor/aspect and sensitivity /value /importance	Description of impact	Magnitude	Significance of effect	Additional mitigation	Residual effect and significance
					throughout the Order Limits.
Decommissioning					
LDV and Humber Designated Sites (including FLL)- High sensitivity.	Temporary noise and visual disturbance during infrastructure removal; short-term displacement of SPA species.	Low to Medium	Minor to Moderate adverse (short-term).	Seasonal timing to avoid core winter period; ECoW presence; rapid reinstatement of grassland and wet features.	Minor adverse (not significant) -full recovery expected post-works.
Terrestrial and Riparian Habitats Supporting Breeding Birds- Medium sensitivity.	Temporary disturbance during removal phase may affect nests if timed poorly; long-term potential for habitat restoration.	Low to Medium – precautionary for seasonal overlap.	Moderate adverse (if works coincide with breeding season and unmitigated).	Timing avoidance for large vegetation clearances (Mar–Aug); ECoW nest checks and stand-offs; restoration to open grassland post-removal	Minor adverse to minor beneficial (not significant) – baseline will return to current state.
Non-breeding waterbirds using the BMA; value potentially up to international importance based on 50+ years of monitoring evidence	Loss or alteration of habitats created within the BMA following return of land to landowners; potential reversion to arable or intensively managed grassland leading to reduced suitability, increased	Low to Medium (uncertain until pre-decommissioning surveys)	Moderate adverse, potentially up to international importance under credible worst case	Application of mitigation hierarchy informed by BMAMP data; opportunities to retain most valuable habitats, adapt management prescriptions or provide replacement habitat through the DEMP	Minor adverse to negligible – (not significant) - subject to implementation of DEMP measures

	Receptor/aspect and sensitivity /value /importance	Description of impact	Magnitude	Significance of effect	Additional mitigation	Residual effect and significance
		fertiliser/pesticide use, altered sward structure and greater disturbance				

12.20 Cumulative assessment

- 12.20.1 This section presents an assessment of cumulative effects between the Proposed Development and other proposed and committed plans and projects.
- 12.20.2 This assessment has been made with reference to the methodology and guidance set out in Chapter 17: Cumulative and In-Combination Effects (ES Volume 1) [EN0110012/APP/LVS/06.01.17] and the shortlist of cumulative plans and projects identified within Chapter 17.
- 12.20.3 For individual receptors, this cumulative effect assessment identifies where the predicted effects of the Proposed Development could interact with effects arising from other plans and/or projects based on a spatial and/or temporal basis.
- 12.20.4 Plans and projects identified within Chapter 17: Cumulative and In-Combination Effects (ES Volume 1) [EN0110012/APP/LVS/06.01.17] which have the potential to result in cumulative effects on Ornithology are set out in Table 12-23 and are considered below. The plans and/or projects considered were scoped in by land loss, similar ornithological receptors and those that consider designated sites that are highlighted throughout this chapter. The Study Area for the Ornithology assessment extends to 20 km. The long list of cumulative developments included within Appendix 17.1: Long List of Developments to Inform Cumulative Assessment (ES Volume 3) [EN0110012/APP/LVS/06.03.17.1] included a search area of 20 km from the Study Area for DCO Applications, but for other applications the search area was 10 km.
- 12.20.5 The remaining plans and projects were reviewed in relation to the biodiversity/ornithological receptors identified in this assessment and no further potential for significant cumulative effects are identified due to the temporary nature of construction and limited impacted from operation and maintenance.
- 12.20.6 It is also important to note that construction traffic associated with the Proposed Development and committed developments has also considered as part of the cumulative Transport Assessment in ES Chapter 14: Traffic and Movement (ES Volume 1) [EN0110012/APP/LVS/06.01.14]. Whilst temporary increases in vehicle movements could occur during the construction period, these would be confined to existing highway corridors and managed through the oCTMP has also been developed [EN0110012/APP/LVS/07.12]. The only key overlap of significant traffic change is within the western extent of Order Limits (the A162 and A63), which is forecasted to add over 1000 trips, however this is located approximately 18 km west of the closest European site boundary [Appendix 14.1: Transport Assessment [EN0110012/APP/LVS/06.03.14.01]. Consequently, the primary air quality pathway to qualifying habitats are absent. As such, construction traffic would not result in additional disturbance, displacement or habitat effects for the European sites and associated qualifying features assessed in this document, beyond those already assessed for the Proposed Development alone.

Overall assessment for ornithology

- 12.20.7 The cumulative assessment (CEA) of nearby and regional projects found no significant adverse cumulative effects on non-breeding Special Protection Area (SPA) bird species or ground-nesting birds in relation to the Proposed Development. Most projects were located several kilometres away, within already disturbed or industrial landscapes, and either implemented robust mitigation measures or were too distant to establish functional ecological linkages. Many solar and energy schemes (e.g., Helios, Fenwick, East Yorkshire, and others) incorporate habitat creation and management for skylark, lapwing, and other non-breeding birds, collectively contributing to a wider network of open-habitat enhancement with minor local or even positive outcomes. Several developments remain at pre-application or scoping stages and are therefore not currently assessable, though no credible pathways for cumulative effects were identified. Housing, infrastructure, and industrial proposals within or adjacent to the area were small in scale or located in low-value habitats, with impacts either screened out or effectively mitigated through embedded mitigation, CEMPs and best practice measures. Overall, the CEA concludes **negligible to minor beneficial** cumulative effects, with no plausible adverse pathways to SPA species or ground-nesting bird assemblages (Table 12-23).

Table 12-23 Plans and projects relevant to the ornithology cumulative assessment

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
1	Drax Bioenergy with Carbon Capture and Storage EN010120	Installation of post-combustion capture technology that would capture carbon dioxide emissions from up to two of the existing biomass units at Drax Power Station. The proposal includes the construction and operation of carbon capture technology and associated equipment, and the integration of the units into the existing Common Services at Drax Power Station, and associated development.	10.7 km / 8.9 km	HRA concluded affected land not FLL; Development is situated in a high disturbance/industrial setting and there is no spatial/functional overlap between the two developments	No likely significant cumulative effects; minor beneficial interactions possible due to mitigation.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
2	Helios Renewable Energy Project EN010140	Installation of ground mounted solar arrays, energy storage and associated development comprising grid connection infrastructure and other infrastructure integral to the construction, operation, and maintenance of the development for the generation of over 50 megawatts of electricity.	6 km / 4.5 km	HRA concluded that the Order Limits is not FLL 37 ha open-habitat mitigation for lapwing; combined open-habitat management with the Proposed Development increases connectivity to resources for non-breeding waders and ground-nesters. Skylark plots are also included and will be in place annually as per the LEMP.	No adverse cumulative effect, likely minor positive via mitigation network created through both developments.
3	Fenwick Solar Farm (≈237.5 MW) EN010152	Installation of solar photovoltaic (PV) generating panels, associated electrical equipment, cabling and energy storage facilities together with grid connection infrastructure. The generating capacity of	11.7 km / 8.4 km	43 skylark territories within arable fields. The ES found current habitats have low productivity due to cropping and disturbance, but embedded measures (neutral grassland	No adverse cumulative effect; likely minor positive via mitigation network created through both developments,

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		the scheme will exceed 50 MW, and its maximum capacity is anticipated to be 237.5MW		<p>creation, 15 m margins, undeveloped corners, open grassland corridors) will enhance nesting success. Residual effects assessed as minor adverse to negligible for skylark and other ground-nesting species.</p> <p>The ES has also concluded that there are no significant effects on non-breeding birds. Impact pathways are too distant for cumulative effects on qualifying non-breeding or ground-nesting bird assemblages.</p>	
4	Ferrybridge Multifuel CCS (EfW CCS)	Carbon Capture and Storage (CCS) technology	5 km / 3 km	Pre-app; no available data to assess.	Not assessed – data limited; no known pathway indicated.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
	EN0710002	for the Ferrybridge Multifuel 1 & 2 Energy from Waste facilities along with associated infrastructure works.			Project are likely to submit a CEMP and apply best practices measures. No adverse cumulative effects
5	Yorkshire Green (OHL and substation works) EN020024	A proposed reinforcement project comprising a new 400kV and 275kV electricity transmission connection and associated development.	0.3 km / 0 m (overlap at Monk Fryston)	One flock of 29 golden plover recorded; OHL located >3 km east of Bird Mitigation Area. Embedded controls (ECoW, lighting, vegetation) in place. OHL collision risk limited to geese/swans; no repeated or specific flight paths recorded within the Order Limits.	No adverse cumulative effects on SPA birds or ground-nesting birds.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
6	East Yorkshire Solar Farm EN010143	Construction, operation (including maintenance) and decommissioning of ground mounted solar photovoltaic (PV) panel arrays, including underground cabling to connect to the national electricity transmission network at National Grid's Drax Substation; underground cabling between the areas of solar PV panels; areas of landscaping and biodiversity enhancement; and other associated development.	8.6 km / 7.6 km	30 ha mitigation for pink-footed goose and golden plover by retaining and enhancing areas of grassland/wet grassland and arable. Project is likely to improve connectivity to Humber and LDV	No adverse cumulative effects; likely minor positive via mitigation network created through both developments.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
7	Ferrybridge Next Generation Power Station (+ gas pipeline) EN0110011	A generating station of up to 1.2GW output capacity designed to run on 100% hydrogen and able to run on 100% natural gas and associated infrastructure including a gas pipeline of up to 10km to connect with the existing Feeder 29 of the National Grid transmission system; water supply and electricity connections; above ground installations; utilities connections; construction and operational laydown areas; access(es); and other associated and ancillary development. (Gas Pipeline crosses Solar Development Site 4)	Solar Development Site 4= 0 m Cable Route Corridor=0 m	Pre-application stage. The proposed gas pipeline alignment runs through the northern and southern extent of Solar Development Site 4, which is used by qualifying SPA/Ramsar bird species (particularly greylag goose), which has been assessed as full lost as part of the Proposed Development assessment due to the placement of the solar array and associated infrastructure.	At this early stage of the Ferrybridge application, limited information is available on the detailed construction programme, methods or ecological mitigation. However, PINs and Natural England have agreed that non-breeding birds can be scoped out of the assessment as a result of the PEIR. It is therefore assumed that temporary disturbance to qualifying, and assemblage species could occur during pipeline installation, particularly if undertaken concurrently with the Proposed Development construction activities. However, this would be short-term and spatially limited, and effective mitigation (e.g. timing restrictions, exclusion zones, or screening) would be expected to be secured through the project's future framework CEMP at DCO stage to manage construction-related

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
					<p>effects (traffic, noise, dust, and vibration).</p> <p>Given the temporary nature of the pipeline works and the distance between Light Valley's Bird Mitigation Area and the pipeline corridor, no cumulative impacts on SPA/Ramsar bird populations are anticipated beyond those already assessed in this ES.</p> <p>No significant cumulative impacts to SPA/Ramsar and(or) breeding birds are predicted.</p> <p>No cumulative adverse effects.</p>
8	Humber Carbon Capture Pipeline (onshore CO ₂) EN0710003	The Humber Carbon Capture Pipeline project comprises an onshore underground CO ₂ pipeline and associated above ground infrastructure to transport captured carbon dioxide from emitters in the Humber region (to be selected by UK	11 km / 8.35 km	Pre-application and no data to currently assess. The development is linear and temporary impacts; >10 km from nearest site; no ecological linkage expected.	No cumulative adverse effects.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		Government as part of the Carbon Capture Usage and Storage Cluster Sequencing process) from Drax (in North Yorkshire) to Easington on the coast (within East Riding of Yorkshire) to connect with a secure offshore storage in the North Sea (with the offshore storage and associated transportation pipeline subject to separate consent).			
9	Mylen Leah Solar Farm (>50 MW) EN0110002	Ground-mounted solar electricity generating station with a gross output of over 50 Megawatts (MW) and associated grid connection infrastructure.	5.1 km / 5.2 km	Early stage of pre-application stage; ground-nesting & non-breeding birds scoped in for assessment; no data is available yet. However, it is reasonable to assume that standard best-practice construction and environmental controls typical of solar	Project are likely to submit a CEMP and apply best practices measures. No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				developments would be implemented, including controls on working hours, noise, lighting, access management and pollution prevention.	
21	Installation and operation of a battery storage facility and ancillary development 2021/0633/FULM (also ZG2023/0956/FUL, 2022/1482/S73 and 2022/1501/FUL)	Installation of a revised access road layout and drainage connection pipe and a new fibre connection cable for the approved Monk Fryston Battery Storage Facility off Rawfield Lane, Monk Fryston (planning reference 2021/0633/FULM / appeal reference APP/N2	2.45 km / 0 m	Minor works within existing infrastructure footprint. Over 2.45 km from the Light Valley Solar Development.	No adverse effects
43	Erection and operation of a mushroom and algae cultivation facility ZG2024/1101/FULM	Erection and operation of a mushroom and algae cultivation facility, ancillary structures and associated scheme of landscaping	11 m / 50 m	Very near southern Order Limits (close to Solar Development Sites 6/7 and 8). No information is currently available to assess.	Given the very small footprint, no pathway to cumulative effects is identified

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		and biodiversity enhancement		Development is contained to a small footprint	
44	Outline application for development of 150 dwellings ZG2023/1152/OUTM	Outline application with all matters reserved except for means of access to, but not within, the site for the development of up to 150 dwellings and associated landscaping and infrastructure works	1.5 km / 280 m	Semi-rural fringe; 1 skylark territory only; typical edge assemblage.	Negligible; screened out for non-breeding SPA species and ground-nesting birds
67	Erection of a Solar Farm AP/2025/0037/REF	Hillam Solar Farm Erection of a solar farm together with ancillary development including cable trenches, internal access tracks, access into the site, an inverter station and fencing	0 m / 0 m	Current stage of application: appeal. Six skylark territories around boundary of the proposed development and likely to be displaced. Updated mitigation documentation not currently available	No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				during appeal process..	
69	Solar development with co-located Battery Energy Storage System ZG2024/1129/FULM	Solar development with co-located Battery Energy Storage System and associated works	1.55 km / 0.1 km	Planning approved. Approximately 28 skylark territories potentially displaced and mitigation is secured through 14 skylark plots under the updated masterplan. Plots will be maintained and monitored in accordance with the Nesting and Ground-Nesting Bird Mitigation Technical Note.	No adverse cumulative effects with secured mitigation/monitoring.
70	Development of Battery Energy Storage System('BE'S')	EIA Screening Opinion in relation to the development of Battery	1.8 km / 0 m	Little information available and no data to assess due to the	Screened out, based on small footprint. Project are likely to

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
	ZG2024/1099/SCN	Energy Storage System ('BE'S') and associated infrastructure		early stages of pre-application	submit a CEMP and apply best practices measures. No adverse cumulative effects
73	Outline planning application for development of 140 dwellings ZG2023/0551/OUTM	Outline application with all matters reserved except for means of access to, but not within, the site for the development of up to 140 dwellings and associated landscaping and infrastructure	2.6 km / 0 m	Surveys recorded no skylark and only single territories of meadow pipit, yellowhammer, and grey partridge within the site. Loss of these is expected but reflects low baseline use adjacent to existing residential areas. No additional cumulative impacts anticipated.	No adverse cumulative effects
75	Installation of battery storage facility ZG2023/1179/FULM	Installation of battery storage facility	2.2 km / 3 km	No qualifying species recorded. However, it is reasonable to assume that standard best-practice construction and environmental controls typical of solar developments would	

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				be implemented, including controls on working hours, noise, lighting, access management and pollution prevention.	
76	Outline planning application for development of 110 dwellings ZG2023/1017/OUTM		3.2 km / 0.66 km	Application was originally refused, and appeal was granted which was won	Breeding birds were only considered as part of the application. No SPA species were recorded and therefore, off-site mitigation measures and compensation has been implemented for breeding birds. No adverse effects.
88	Construction and operation of a solar farm ZG2023/0481/SCN	EIA Screening Opinion in relation to the construction and operation of a solar farm together with all associated works, equipment, necessary infrastructure, and landscaping	50 m / 10 m	No data available to assess due to development in early stages of pre-application	Unable to assess. It assumed that the project would have a CEMP with secured measures to mitigate and control any adverse impacts.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
91	EIA screening request for the construction and operation of approximately 40MW, ground mounted solar farm 2020/1250/SCN	EIA screening request for a construction and operation of approximately 40MW, ground mounted solar farm development and related infrastructure, including site access, inverter/transformer units, substation, battery storage provision and security measures	6.7 km / 7 km	No data available to assess due to development in early stages of pre-application	Screened out
92	Reserved Matters Application including layout of planning permission 2021/1531/EIA Outline application for the demolition of existing colliery buildings and the construction of up to 1,460,000 sq ft of employment floorspace ZG2025/0529/REMM Also local plan land allocation SHERBURN/028 Outline application for the demolition	Harworth Group PLC Reserved Matters application including layout of planning permission 2021/1531/EIA Outline application for the demolition of existing colliery buildings and the construction of up to 1,460,000 sq ft of employment floorspace comprising Use Classes B2, B8 and E(g) to include access (with all other	60 m / 660 m	Low ecological value; one LR plover typical of substrate; large areas retained incl. ag land/drainage; robust construction controls (lighting, compounds, hours).	No significant cumulative.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
	<p>of existing colliery buildings and the construction of up to 1,460,000 sq ft of employment floorspace 2021/1531/EIA Also local plan land allocation SHERBURN/028</p>	<p>matters reserved)Outline application for the demolition of existing colliery buildings and the construction of up to 1,460,000 sq ft of employment floorspace comprising Use Classes B2, B8 and E(g) to include access (with all other matters reserved).</p>			
98	<p>Hybrid Planning Application for Drax Power Station – Converter Station and high voltage current 2022/0711/EIA</p>	<p>Hybrid Planning Application comprising two parts: (Part 1) Outline planning application (all matters reserved) for the construction of a converter station at Drax, Selby; (Part 2) full planning application for the installation of high voltage direct current (HVDC) underground cables from the River Ouse to the converter station and high voltage alternating current</p>	11.7 km / 9.8 km	<p>Located c. 10 km away. HRA concluded no Likely Significant Effects. Temporary construction impacts only; breeding and wintering bird assessments found minor adverse effects. Embedded mitigation and CEMP measures (pollution control, timing, habitat protection) secured through design.</p>	No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		<p>(HVAC) underground cables from the converter station to the existing Drax Substation as well as all associated temporary works including compounds, accesses and bellmouths as part of the construction of Scotland-England Green Link 2 (SEGL2), a two gigawatt (GW) reinforcement of the electricity transmission system between Peterhead, Scotland and Drax, England.</p>			

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
100	Installation of renewable energy generating station comprising ground mounted photovoltaic solar arrays 2021/0978/FULM	Installation of renewable energy generating station comprising ground mounted photovoltaic solar arrays together with substation, transformer stations, site accesses, internal access tracks, security measures, access gates, other ancillary infrastructure	4.6 km / 2.8 km	<p>Planning permitted in 2022.CEMP: Biodiversity to protect habitats during construction, covering access control, timing, pollution, noise, and lighting. With adherence, no residual effects on designated sites anticipated. Site supports low numbers of common farmland and wintering birds (skylark, starling, snipe). Loss of small arable areas not significant given available habitat nearby.</p> <p>Enhancements include wide tussocky grass margins, hedgerow infill, and bird boxes providing long-term local habitat benefits.</p>	No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
102	Enhanced public realm, walking and cycling routes, improved visual amenity and an improved gateway experience at the Selby Train Station. 2021/0692/SCP	EIA Scoping Request for an enhanced public realm, walking and cycling routes, improved visual amenity and an improved gateway experience at the Selby Train Station.	7.2 km / 2.5 km	Development is within urban/hard standing environment. No impact pathways.	No adverse cumulative effects
103	Proposed solar farm and battery energy storage system development ZG2025/0733/EIA	Construction and operation of solar photovoltaic farm and Battery Energy Storage System (BESS) including access, fencing, CCTV, internal service tracks, ancillary equipment and scheme of landscaping	4.45 km / 1.6 km	Surveys ongoing (July 2025). However, farmland birds and ground-nesting birds are scoped in for further assessment	Unable to assess. It is assumed that the project would have a CEMP with secured measures to mitigate and control any adverse impacts.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
157	<p>Proposed new quarry to extract approximately 6 million tonnes of clay by 2053 and restoration of the site to agriculture and nature conservation with the importation of up to 2.67 million tonnes of inert materials</p> <p>NY/2019/0136/ENV</p>	<p>Proposed new quarry to extract approximately 6 million tonnes of clay by 2053 and restoration of the site to agriculture and nature conservation with the importation of up to 2.67 million tonnes of inert materials together with the construction of new internal site access haul road, site compound, car park, site office, wheel washing facility, security fencing and gates and the construction of a temporary bridge crossing over the National Route 65 of the National Cycle Network</p>	2.1 km / 1.8 km	<p>temporary pipeline located up to 20 km from the Bird Mitigation Area (Solar Development Site 1) no spatial or functional linkage. Surveys recorded a diverse breeding bird community including several Red/Amber-listed and Schedule 1 species (e.g. skylark, yellowhammer, barn owl). Phased clearance and timing of works outside the breeding season will avoid nest loss. Short-term disturbance effects considered not significant, with long-term biodiversity enhancement through habitat restoration.</p>	<p>No adverse cumulative effects; long-term potential beneficial post-restoration.</p>

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
158	Proposed additional recovery of ash resource NY/2022/0027/SCO	Request for EIA Scoping Opinion for the proposed additional recovery of ash resource	10.2 km / 7.3 km	No data available to assess due to development in early stages of pre-application	No adverse cumulative effects
160	Development of an Agricultural Anaerobic Digestion (AD) Facility NY/2024/0200/FUL	Development of an Agricultural Anaerobic Digestion (AD) Facility and associated plant and equipment and soft landscaping	70 m / 400 m	Development is located in small, enclosed arable field with limited suitability for ground-nesting or migratory birds and not functionally linked to any SPA/Ramsar site. Surrounding habitats (Mill Dike, hedgerows, woodland) retained and protected. Site clearance to follow nesting-season protocols under ECoW supervision. Overall impact neutral to minor positive with landscaping.	No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
161	Extraction and export of pulverised fuel ash (PFA) and furnace bottom ash (FBA) from Barlow Ash Mound in two phases (Phase 1 and Phase 2) NY/2024/0159/ENV	Extraction and export of pulverised fuel ash (PFA) and furnace bottom ash (FBA) from Barlow Ash Mound in two phases (Phase 1 and Phase 2) and associated development including a weighbridge, wheel wash facilities, screening and processing plant, lighting	10 km / 7 km	Located ~10 km away. Outline Landscape and Biodiversity Restoration Strategy will deliver extensive new neutral grassland, woodland, scrub, and hedgerow habitats managed for wintering birds. Restoration to create open grassland (>8 ha) and structurally diverse habitats supporting skylark, lapwing, and other assemblage species. Progressive restoration and early enhancement in retained areas to maintain habitat continuity. Lighting and noise effects near Eco-lagoon negligible given existing disturbance. Overall	No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				moderate beneficial long-term effect on wintering birds; not significant adverse cumulatively.	
162	Request for EIA Scoping Opinion for the importation of inert waste to enable restoration NY/2024/0132/SCO	Request for EIA Scoping Opinion for the importation of inert waste to enable restoration	5.8 km / 7.4 km	No data available to assess due to development in early stages of pre-application	Unable to assess. It assumed that the project would have a CEMP with secured measures to mitigate and control any adverse impacts.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
167	Construction of an energy park comprising 49.9MW solar farm and battery energy storage system (BESS) ZG2025/0427/EIA	Construction of an energy park comprising 49.9MW solar farm and battery energy storage system (BESS) and associated infrastructure cross boundary application	7.5 km / 8.8 km	Construction will temporarily disturb and partially remove open farmland habitat supporting skylark (7 territories), grey partridge, and yellow wagtail. Hedgerows and boundary features retained to maintain nesting opportunities. A CEMP will control timing, lighting, and noise; clearance outside March–August or under ECoW supervision. Compensation includes creation of 17 skylark plots within 21.5 ha of retained arable land, plus hedgerow enhancement, new trees, and neutral grassland creation.	No adverse cumulative effects; mitigation yields beneficial for ground-nesters.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				<p>Measures secured through LEMP/HMMP. Residual effects on farmland birds not significant; overall local beneficial outcome through habitat gain and management.</p>	

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
168	Construction and operation of a solar farm comprising up to 49.9MW (AC) and associated infrastructure ZG2025/0100/EIA	Construction and operation of a solar farm comprising up to 49.9MW (AC) and associated infrastructure	6.4 km / 6.5 km	Embedded mitigation includes exclusion of high-value habitats (ancient and deciduous woodland) and 15 m buffers to retained woodland and hedgerows. A 100 m buffer maintained around known barn owl nest site. Vegetation clearance to avoid bird breeding season; pre-construction nesting bird surveys where required. Measures ensure protection of woodland, hedgerow, and barn owl habitats- no significant residual effects anticipated.	No mitigation for ground-nesting birds has been proposed, despite this being requested by the LPA. In the absence of such measures, no adverse effects are predicted in relation to breeding birds due to the distance (6.4 km from where long-term loss occurs within Light Valley Solar Order Limits). Based on Natural England’s consultation response, no significant impacts are anticipated for non-breeding bird populations. No adverse cumulative effects.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
170	Installation of a solar farm comprising ground mounted solar PV panels with an installed capacity of 49.99MW ZG2025/0693/EIA	Installation of a solar farm comprising ground mounted solar PV panels with an installed capacity of 49.99MW AC including mounting system, inverters, underground cabling, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping, biodiversity net gain and environmental enhancements for a temporary period of 50 years and a permanent substation	8.2 km / 4.1 km	Site supports common farmland and nesting birds within grassland, arable, and hedgerow habitats. No SPA qualifying species recorded. Construction may cause temporary disturbance from noise and vibration. A CEMP will manage these effects and include measures for pollution, noise, and lighting control. Vegetation clearance to occur outside March–August; if unavoidable, pre-works nesting bird checks and ECoW supervision required. Standard construction safeguards (covering excavations, escape ramps, debris management) to be	Minor adverse to ground nesting birds at a local level due to loss of nesting habitat. However, no SPA qualifying species were recorded and therefore not significant and no adverse cumulative effects.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				implemented. Overall residual effects negligible with mitigation.	
171	Construction and operation of solar photovoltaic farm and BESS ZG/2025/0762/EIA	Construction and operation of solar photovoltaic farm and Battery Energy Storage System (BESS) including access, fencing, CCTV, internal service tracks, ancillary equipment and scheme of landscaping	4.55 km / 1.45 km	Surveys are currently ongoing. At present, records include breeding oystercatcher and corn bunting; results pending.	Unable to assess. It assumed that the project would have a CEMP with secured measures to mitigate and control any adverse cumulative impacts.
180	Ground mounted solar farm 2023/0128/EIA	Development of a ground-mounted solar farm including associated infrastructure	10.95 km / 9.85 km	Permitted development. HRA concluded no qualifying species present and therefore, no adverse impacts on the European sites.	no adverse cumulative effects on non-breeding and breeding species, due to off-site mitigation provided for skylark territory losses.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				Impact on c. 7 skylark territories to be mitigated through the creation of skylark plots in off-site fields adjacent to south-eastern boundary, as per condition 06 of LPA decision notice.	
181	100 dwelling development ZG2025/0928/OUTM	Outline application for up to 100 residential dwellings with all matters reserved except for access	4 km / 0.25 km	Awaiting decision. LPA review of PEA states that site is outside the influence zone of any statutory designated site. It further states that the site is not significant for bird populations, and only precautionary measures during construction are advised.	No adverse cumulative effects. It assumed that the project would have a CEMP with secured measures to mitigate and control any adverse cumulative impacts.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
182	75 dwelling development ZG2025/1019/FULM	Erection of up to 75 No. residential dwellings, open space, landscaping, drainage infrastructure and associated works	1.55 km / 0.03 km	Awaiting determination. No significant cumulative effects are anticipated on statutory designated sites, and no SPA qualifying species have been recorded within the site or the surrounding area. The BBS report identifies the need for mitigation to address potential habitat loss for breeding ground-nesting birds, specifically skylark and corn bunting. The LPA has requested further information prior to agreeing any compensation measures.	No adverse cumulative effects, on the basis that compensation measures are secured due to the loss of ground nesting bird habitat.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
183	300 dwelling development ZG2025/0982/OUTM	Outline application for the development of up to 300 dwellings with drainage, access, open space, landscaping and associated infrastructure. All matters are reserved except for access from Tadcaster Road (A162)	2.4 km / 2.75 km	Awaiting determination. The EclA concludes that no impacts are expected on statutory designated sites. Probable curlew and lapwing territories on arable land to the north are not predicted to be affected. The EclA identifies the loss of suitable habitat for confirmed breeding skylark (two territories) and possibly breeding yellow wagtail (one territory), but considers this to be of no significant importance to local populations due to the small number of territories involved. The LPA concurs that the scale of impact is	No adverse cumulative effects, due to LPAs decision and mitigation put in place for proposed development (Light Valley Solar)

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				limited, notes that on-site compensation is not feasible, and provides no further comment.	
184	Reserved matters application for employment floor space ZG2025/0711/S73	Section 73 application to vary condition 06 (foul rising mains) of approval ZG2023/0660/REMM Reserved matters application including appearance, landscaping, layout and scale of approval 2018/0697/OUTM for the erection of employment floor space (Use Class B2/B8/ E(g)(i), with ancillary office accommodation; parking and servicing areas and landscaping granted on 22 April 2025	1.35 km / 1.75 km	Permitted. Application to amend the wording of a condition on the decision notice for previous application ZG2023/0660/REMM. The PEA for the earlier application recorded skylark, meadow pipit, snipe and grey partridge, but assessed the site as being of low ornithological importance due to existing disturbance from development to the east. The PEA identified no SPA or Ramsar sites within 10 km and did not	No adverse cumulative effects, due to LPAs decision and mitigation put in place for proposed development (Light Valley Solar)

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				recommend further bird surveys. The LPA did not dispute these conclusions.	
185	180 dwelling development ZG2025/0983/OUTM	Outline planning application for the construction of up to 180 dwellings (Class C3) including access from Low Street (all other matters are reserved)	0.4 km / 0.63 km	Awaiting determination. No SPA or Ramsar sites are located within 10 km of the site, and no associated species were recorded during surveys or identified through data searches. The EclA concludes that the site is not of significant importance for local ground-nesting birds due to the existing management regime and the availability of suitable habitat in the surrounding area. The LPA has not disputed this assessment.	No adverse cumulative effects, due to LPAs decision and mitigation put in place for proposed development (Light Valley Solar)

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
187	Reserved matters application for construction of employment development ZG2025/0884/REMM	Core 62(Eggborough) Ltd (formerly St Francis Group Ltd) Reserved Matters application for the construction of employment development (Use Class E(g)iii, B2 and B8) for Plots 3 and 4A-4D, including details of appearance, scale, landscaping, layout, along with all associated works in association to hybrid application 2019/1343/EIA to demolish and redevelop the power station	3.85 km / 5.2 km	Awaiting determination. No SPA or Ramsar sites are located within 10 km of the site. The Ecology chapter of the ES for the related application (2019/1343/EIA) recommends site clearance outside the bird breeding season only.	Demolish and redevelop, which will likely be comparable to existing baseline and will not impact ground nesting species. No adverse cumulative effects
192	Construction of underground cable 22/01990/STPLFE	Construction of sub-surface cable route from Drax Power Station to Fraisthorpe Coastline with associated accesses and temporary construction compounds in association	12.25 km / 9.4 km	Approved. The ES chapter concludes that effects on both wintering and breeding birds are minor adverse and not significant and does not propose any site-	Temporary in nature and habitats reinstated. Impacts are reversible. No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		with the Scotland to England Green Link		specific mitigation in relation to birds. The HRA concludes that the development will not result in adverse effects on the Humber Estuary or Lower Derwent Valley SPA/Ramsar in relation to loss of FLL.	
195	Scoping Opinion for waste to resource park 25/01962/EIASC	Scoping Opinion for waste to resource park	3.65 km / 3.8 km	The EIA scoping report records that a PEA was undertaken and concluded that the site is not suitable for a range of species and that further survey work is not required. The nearest relevant designated site is the Humber Estuary Ramsar, located more than 20 km north-east of the site. The LPA has requested an EclA due to the site's	Unable to assess. It assumed that the project would have a CEMP with secured measures to mitigate and control any adverse cumulative impacts.

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
				proximity to Fairburn and Newton Ings SSSI, Willowgarth LWS, and the Wakefield Wildlife Habitat Network.	
196	Sand and gravel quarry scheme 25/02626/FU	Temporary use of 40.2 hectares of land for the winning and working of 2.1 million tonnes of sand and gravel, including new access and egress onto Green Lane; internal access roads; screening mounds; a processing area for operation of a mineral washing and screening plant and conveyors; settlement lagoons; a stockyard for finished building sand, concrete sand and gravel products; a plant yard; single storey site offices and amenity units with septic tanks; fixed and	9.7 km / 7.1 km	Awaiting determination. ES Chapter 8 identifies one confirmed skylark territory and one confirmed grey partridge territory but classifies disturbance effects as negligible and the temporary loss of breeding territory as moderately positive, reflecting the creation of seeded mounds as alternative habitat during development/quarrying and the long-term restoration of on-site habitats. No SPA or	Temporary in nature and habitats reinstated. Impacts are reversible. No adverse cumulative effects

ID	Application reference	Description	Distance to Solar Development Site / Cable Route Corridor	Key ornithology context (non-breeding SPA spp. & ground-nesters)	CEA outcome
		mobile external lighting; a vehicle parking area; a wheel washing facility; a weighbridge; a water treatment area including drainage ditches and replacement pipe beneath Lower Mickletown Road; an electricity substation; perimeter fences; and restoration of the land to agriculture, grassland and 2 no. water bodies		Ramsar sites are located within 10 km of the site. The LPA has yet to comment.	

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