Department for Energy Security & Net Zero

Habitats Regulations Assessment for an Application Under the Planning Act 2008

Helios Renewable Energy Project

Regulation 63 of the Conservation of Habitats and Species Regulations 2017

3 December 2025

[This page is intentionally left blank]

Contents

List of abbreviations

Term	Abbreviation
Adverse Effect on Integrity	AEoI
Appropriate Assessment	AA
Construction Environmental Management Plan	CEMP
Development Consent Order	DCO
Environmental Statement	ES
European Economic Area	EEA
Examining Authority	ExA
Functionally Linked Land	FLL
Habitat Regulations Assessment	HRA
hectares	ha
Interested Parties	IPs
kilovolts	kV
Likely Significant Effect	LSE
Nationally Significant Infrastructure Project	NSIP
National Site Network	NSN
Natural England	NE
nautical mile	nm
megawatts	MW
Report on the Implications for European Sites	RIES
Single axis tracker	SAT
Solar Photovoltaic	PV
Special Areas of Conservation	SACs
Special Protection Areas	SPAs
Statement of Common Ground	SoCG
Statutory Nature Conservation Body	SNCB
Supplementary Advice on Conservation Objectives	SACO
The Planning Inspectorate	PINS
The Secretary of State for Energy Security and Net Zero	The Secretary of State
United Kingdom	UK

1 Introduction

1.1 Background

This is a record of the Habitats Regulations Assessment ("HRA") that the Secretary of State for Energy Security and Net Zero ("the Secretary of State") has undertaken under the Conservation of Habitats and Species Regulations 2017[1] ("the Habitats Regulations") as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 ("the 2019 Regulations") in respect of the Development Consent Order ("DCO") for Helios Renewable Energy Project and its associated infrastructure (the "Project"). The Examining Authority ("ExA") defines this as the "Proposed Development". For the purposes of these Regulations, the Secretary of State is the competent authority.

The Project comprises the construction, operation and decommissioning of ground mounted solar photovoltaic (PV) arrays and energy storage and export connection to the national grid, at National Grid's Drax Substation. The agreed grid connection for the Project will allow the export (to the national grid) of up to 190 megawatts (MW) of electricity at any time. The operational design life of the Project is 40 years. The solar PV panels would utilise a single axis tracker (SAT) units.

The Project constitutes a nationally significant infrastructure project ("NSIP") as defined by sections 14 and 15 of the Planning Act 2008 as it includes the construction or extension of a generating station in England, not generating electricity from wind and is not an offshore generating station, but has a capacity of more than 50MW.

The Project was accepted by the Planning Inspectorate ("PINS") on 30 July 2024 and one Inspector was appointed as the Examining Authority ("ExA") for the Application. The Examination of the Project Application began on 3 December 2024 and concluded on 3 June 2025. The ExA submitted its report of the Examination including its recommendation ("the ExA's Report") to the Secretary of State on 03 September 2025. Numbered references to the ExA's Report are presented in the format "[ER *.*.*]".

This HRA also contains a consideration of the potential effects of the Project upon protected sites in European Economic Area ("EEA") States ("transboundary sites"). This is described in more detail in Section 6 of this document.

[1] https://www.legislation.gov.uk/uksi/2017/1012/contents

1.2 Habitats Regulations Assessment

The Habitats Regulations aim to ensure the long-term conservation of certain species and habitats by protecting them from possible adverse effects of plans and projects. In the UK, the Habitats Regulations apply as far as the 12 nautical miles (nm) limit of territorial waters.

The Habitats Regulations provide for the designation of sites for the protection of habitats and species of international importance. These sites are called Special Areas of Conservation ("SACs"). The Regulations also provide for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species within the UK and internationally. These sites are called Special Protection Areas ("SPAs"). SACs and SPAs together, referred to as European sites in legislation, form part of the United Kingdom (UK's) National Site Network ("NSN").

The Convention on Wetlands of International Importance 1972 ("the Ramsar Convention") provides for the listing of wetlands of international importance. These sites are called Ramsar sites. Government policy is to afford Ramsar sites in the UK the same protection as sites within the NSN (collectively referred to in this document as "protected sites").

Regulation 63 of the Habitats Regulations provides that:

…before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in-combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site, [the competent authority] must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

And that:

In the light of the conclusions of the assessment, and subject to regulation 64, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

This Project is not directly connected with, or necessary to, the management of a protected site. The Habitats Regulations require that, where the Project is likely to have a significant effect ("LSE") on any such site, alone or in-combination with other plans and projects, an appropriate assessment ("AA") is carried out to determine whether or not the Project will have an adverse effect on the integrity ("AEoI") of the site in view of that site's conservation objectives. In this document, the first stage assessment of LSEs and, where required, the second stage assessment of AA to determine whether there is an AEoI of a protected site, are collectively referred to as the Habitats Regulations Assessment (HRA).

The Secretary of State has had regard to relevant guidance on the application of the HRA including the PINS (2024) Advice Note[2], European Commission guidance[3], as well as joint

[2] Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments - GOV.UK

[3] https://op.europa.eu/en/publication-detail/-/publication/11e4ee91-2a8a-11e9-8d04-01aa75ed71a1

guidance by DEFRA, Natural England ("NE"), the Welsh Government, and Natural Resources Wales (2021) on 'Habitats Regulations Assessment: protecting a European site'[4].

1.3 Site conservation objectives

Where an AA is required in respect of a protected site, Regulation 63(1) of the Habitats Regulations requires that it be an AA of the implications of the plan or project for the site in view of its conservation objectives. Government guidance also recommends that in carrying out the LSE screening, applicants must check if the proposal could have a significant effect on a protected site that could affect its conservation objectives.

DEFRA Guidance indicates that disturbance to a species or deterioration of a protected site must be considered in relation to the integrity of that site and its conservation objectives[5]. It states that *"the integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was designated"*.

Conservation objectives have been established by NE. When met, each site will contribute to the overall favourable conservation status of the species or habitat feature across its natural range. Conservation objectives outline the desired state for a protected site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a 'favourable condition'. An AEoI is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation. There are no set thresholds at which impacts on site integrity are considered adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale, and significance of the impact.

NE has issued generic conservation objectives, which should be applied to each interest feature of the site. Supplementary advice on conservation objectives ("SACOs") for each site underpins these generic objectives to provide site-specific information and give greater clarity to what might constitute an adverse effect on a site interest feature. SACOs are subject to availability and are currently being updated on a rolling basis.

Where supplementary advice is not yet available for a site, NE advises that HRAs should use the generic objectives[6] and apply them to the site-specific situation. For SPAs, the overarching objective is to avoid the deterioration of the habitats of qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Habitats Regulations. This is achieved by, subject to natural change, maintaining and restoring:

[4] https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

[5] https://www.gov.uk/guidance/appropriate-assessment

[6] http://publications.naturalengland.org.uk/publication/6734992977690624?cache=1656417868.31

- the extent and distribution of the habitats of the qualifying features;
- the structure and function of the habitats of the qualifying features;
- the supporting processes on which the habitats of the qualifying features rely;
- the populations of the qualifying features; and
- the distribution of the qualifying features within the site.

For SACs, the overarching objective is to avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving favourable conservation status of each of the qualifying features. This is achieved by, subject to natural change, maintaining and restoring:

- the extent and distribution of the qualifying natural habitats and habitats of qualifying species;
- the structure and function (including typical species) of qualifying natural habitats;
- the structure and function of the habitats of qualifying species;
- the supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- the populations of qualifying species; and
- the distribution of qualifying species within the site.

The conservation objectives and, where available, supplementary advice on conservation objectives have been used by the Secretary of State to consider whether the Project has the potential to have an AEoI of sites, either alone or in-combination with other plans or projects. The SACOs relevant to this HRA, as published by NE and the Joint Nature Conservation Committee are referenced in Table 1 of this document for protected sites considered as part of the AA for the Project.

1.4 The Report on the Implications for European Sites and statutory consultation

Under Regulation 63(3) of the Habitats Regulations the competent authority must consult the appropriate Statutory Nature Conservation Body ("SNCB") and have regard to any representation made by that body within such reasonable time as the authority specifies. NE is the SNCB for England and for English waters within the 12 nm limit.

The ExA, with the support of the Inspectorate's Environmental Services Team, produced a Report on the Implications for European Sites ("the RIES") [PD-008]. The purpose of the RIES was to compile, document, and signpost information submitted by the Applicant and IPs during the Examination (up to 02 May 2024). It was issued to ensure that Interested Parties (IPs), including NE as the SNCB under Regulation 5 of the Habitats Regulations, had been formally consulted on Habitats Regulations matters in respect of the Application for the Project during the Examination.

The RIES was published on the PINS NSIP website and the ExA notified IPs that it had been published. Consultation on the RIES was undertaken between 02 May 2024 and 16 May 2025 and comments were received from NE [REP8-024].

1.5 Documents referred to in this HRA

This HRA has taken account of, and should be read in conjunction with, the documents produced as part of the Application and Examination, which are available on the PINS NSIP website[7]. In particular:

- the ExA's Report;
- the RIES (PD-008);
- the Applicant's assessment of effects, including:
    - the Applicant's Information to inform a Habitats Regulations Assessment Report ("HRA Report") [REP8-013];
- the Environmental Statement ("ES") [APP-019 – APP-180]; and
- the Statement of Common Ground ("SoCG") with NE [REP5-009]
- Plus, all other information submitted during the Examination and during the Secretary of State's consideration of the Application.

The final signed SoCG between the Applicant and NE [REP5-009] was submitted at Deadline 5. The SoCG confirmed that all HRA matters were agreed between the two parties, and that there were no HRA matters outstanding between them in respect of the Project.

[7] https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010140

2 Project description

The Project is located in North Yorkshire, wholly within the administrative area of North Yorkshire Council. The location of the Project is shown in the Location and Order Limits Plan [APP-013], Land Plan [APP-014] and Land and Crown Land Plan (REP4-003) and is described in detail in ES Chapter 3 [APP-023].

The Project comprises the construction, operation (including maintenance and repair) and decommissioning of a solar photovoltaic (PV) electricity generating facility with a total capacity exceeding 50 megawatts (MW) and export connection to the national grid, at National Grid's Drax Substation. The 'Site' comprises approximately 475 hectares (ha) of agricultural land, consisting of fields used for grazing and arable farming.

The key components of the Project comprise:

- Solar PV modules, mounting structures and field stations including inverters, transformers and switchgear;
- On-Site substation with a maximum voltage of 132 kilovolts (kV) and energy storage compound;
- Distribution cables (low voltage cables between the solar PV modules, inverters and field stations);
- Grid connection cables (underground cables with a maximum voltage of 132kv connecting the Site to the National Grid substation at Drax Power Station);
- Ancillary infrastructure such as fencing, security systems, and CCTV;
- Access tracks;
- Landscape and ecological enhancements; and
- Archaeological mitigation.

2.1 Changes to the Application during Examination

Although no formal change requests were made by the Applicant, changes to the key Application documents, including the wording of the dDCO and amendments to the HRA Report, were submitted and updated during the Examination. The changes sought to address points raised by IPs and the ExA and to update or provide additional information resulting from changes and discussions that had occurred during the Examination.

The Applicant's changes to the Application documents, together with any additional information submitted, are detailed in the Application Guide submitted at Deadline 9 [REP9-002]. This provides a guide to all documents submitted as part of the Application and was updated at each deadline when new or revised documents were submitted. It provides a full record of all documentation submitted into the Examination by the Applicant.

No further questions on HRA matters were asked in the determination stage.

3 Stage 1: Screening for Likely Significant Effects ("LSEs")

Under Regulation 63 of the Habitats Regulations, the Secretary of State must consider whether the Project will have an LSE on a protected site, either alone or in-combination with other plans or projects. The purpose of this section is to identify any LSEs on protected sites that may result from the Project and to record the Secretary of State's conclusions on the need for an AA.

Section 4.3 of the HRA Report presents the broad approach undertaken by the Applicant for LSE screening and the process to identify relevant protected sites and qualifying features.

The HRA Report (Section 4.6) provides an identification of the potential impact pathways for the qualifying habitats and/or species. During Examination NE identified additional pathways which the Applicant included in updates made to the HRA Report. This included noise and visual disturbance to qualifying bird species using Functionally Linked Land (FLL) and changes to habitats due to changes in air quality. Further, during Examination, Annex 3 was added to the HRA Report by the Applicant to more clearly document the impact pathways considered, and the HRA Report was also amended to clarify that NE's impact risk zone tool was used in the screening process.

The following potential effects were considered in the screening assessment:

- Degradation of habitats due to changes in air quality (construction[8]);
- Loss of FLL for qualifying bird species (construction[8] and operation);
- Disturbance/ displacement of qualifying bird species using FLL (construction[8] and operation);
- Disruption of flight paths of qualifying bird species as a result of glint and glare (operation); and
- Harm to, or disturbance of, (non-avian) mobile qualifying features (construction[8] and operation).

Information on the effects screened in for each protected site is provided in Section 3.1 of this document.

The protected sites and qualifying features that were considered in the Applicant's assessment of LSE are presented in Table 4.1 of the HRA Report. This final list, as presented in the HRA Report (REP8-013), includes Thorne Moor SAC which was identified and added by the Applicant during Examination. In summary, the Applicant identified the following protected sites that lie within 10km of the Project which were included within the screening assessment:

- River Derwent SAC (at a distance of 2.22km from the Project);
- Lower Derwent Valley SPA (at a distance of 6.47km from the Project);
- Lower Derwent Valley SAC (at a distance of 6.47km from the Project);

[8] and decommissioning, noting impacts are considered likely to be similar to, or less than, those identified for the construction phase

- Lower Derwent Valley Ramsar (at a distance of 6.55km from the Project);
- Humber Estuary SPA (at a distance of 6.64km from the Project);
- Humber Estuary SAC (at a distance of 6.64km from the Project);
- Humber Estuary Ramsar (at a distance of 6.64km from the Project);
- Skipwith Common SAC (at a distance of 8.5km from the Project);
- Thorne Moor SAC (at a distance of 9.09km from the Project); and
- Thorne & Hatfield Moors SPA (at a distance of 9.09km from the Project).

The spatial relationship between the Order Limits of the Project and protected sites is shown in Figure 8.1 of the Applicant's Appendix 8.1 Baseline Habitats and Desk Study Report of the ES [APP-144] and Figure 1 of this document.

Annex 3 of the HRA Report provides detail of the pathways of effect for each protected site and qualifying feature which are considered in the screening assessment.

It was agreed by NE that the appropriate protected sites had been included within the screening assessment (RR-268 Ref NE1.3).

The screening assessment within the HRA Report (Section 4.7) considers the identified protected sites and the potential impacts to evaluate the potential for LSE. Based on the separation distance from the Project, nature of impacts, lack of hydrological connection, and absence of suitable habitat for their qualifying features, the HRA Report concluded no LSE from the Project, alone or in-combination, on any of the qualifying features of:

- River Derwent SAC;
- Lower Derwent Valley SAC;
- Humber Estuary SAC;
- Skipwith Common SAC;
- Thorne Moor SAC; and
- Thorne & Hatfield Moors SPA.

It is noted that based on the separation distance and static nature of the qualifying features of Skipwith Common SAC and Thorne Moor SAC there is no potential for LSE. Separation distance and lack of pathway, also drives the justification for there being no potential for LSE for qualifying features of the Humber Estuary SAC, River Derwent SAC, Lower Derwent Valley SAC and Thorne & Hatfield Moors SPA.

NE did not present disagreement with the Applicant's conclusion of no LSEs in respect of the sites listed above, as confirmed by NE's response to the RIES NE's [REP8-024].

The initial HRA Report, provided with the Application submission [APP-151] screened out the Lower Derwent Valley SPA, Lower Derwent Valley Ramsar, Humber Estuary SPA and Humber Estuary Ramsar and no AA was undertaken. NE, in their Relevant Representation [RR-268], highlighted that sufficient evidence had not been provided to rule out LSE on these protected sites, in particular, the consideration of FLL. The Applicant provided updated desk-based information on the assessment of FLL in relation to usage, seasonal patterns, habitat characteristics as well as factors like cropping regimes. Clarification was also provided on baseline survey coverage and timelines. The Applicant maintained that the Projects Order Limits did not contain FLL but acknowledged some evidence of lapwing usage which is a declining

component of the waterbird assemblage feature of the Lower Derwent Valley SPA, Lower Derwent Valley Ramsar, Humber Estuary SPA and Humber Estuary Ramsar.

Following updates made by the Applicant to the HRA Report, the protected sites that were screened into AA on the basis that LSE could not be ruled out are:

- Lower Derwent Valley SPA;
- Lower Derwent Valley Ramsar;
- Humber Estuary SPA; and
- Humber Estuary Ramsar.

Only non-breeding qualifying species of the Lower Derwent Valley SPA and Humber Estuary SPA were screened into further assessment by the Applicant, given the lack of breeding records during the field surveys, lack of suitable habitat present onsite (and within 600m of the Project Order Limits) and, given spatial separation between the SPAs and the Project. In their Relevant Representation [RR-268], NE agree with this position.

Based on the information before him, the views of IPs as well as the recommendations of the ExA, the Secretary of State is content to adopt the rationale of the Applicant, NE, and the ExA that the correct protected sites and qualifying features have been identified.

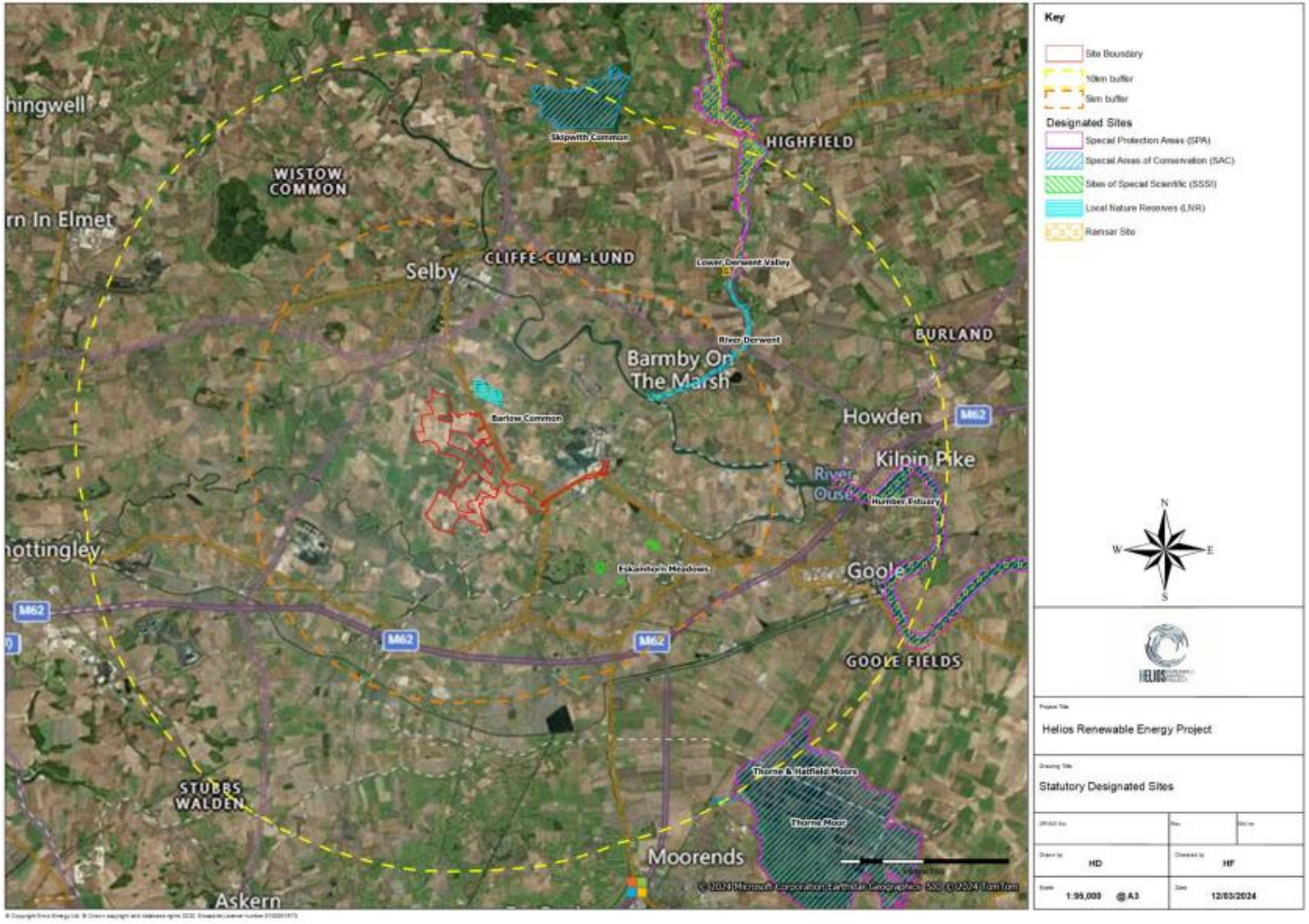

Figure 1: The Project (in red) location in relation to the Protected Sites within the 5km and 10km buffer zones

3.1 Likely Significant Effects alone

The Applicant identified the effects considered to have the potential to result in LSEs, from the Project alone in Sections 4 of the HRA Report [REP8-013].

During the Examination, NE [RR-268] initially considered that insufficient evidence has been provided in the HRA Report to rule out LSE from the potential loss of FLL on the Lower Derwent Valley SPA/Ramsar and the Humber Estuary SPA/Ramsar. The Applicant provided additional information to assess if FLL was present within the Project Order Limits and acknowledged evidence of limited use by lapwing which is a declining component of the waterbird assemblage feature of the Lower Derwent Valley SPA/Ramsar and the Humber Estuary SPA/Ramsar. NE [REP5-009] subsequently agreed with the conclusions of the LSE assessment in relation to FLL, that for the Lower Derwent Valley SPA/Ramsar and the Humber Estuary SPA/Ramsar LSE could not be ruled out for loss of FLL.

NE also requested further evidence to support the conclusion of no LSE for air quality on all protected sites and features. The Applicant updated the HRA Report to confirm operational traffic is below the screening threshold and that there are no habitats within 200m of construction traffic routes. Agreement that potential LSE from air quality impacts could be screened out is evidenced in the draft and final SoCG between NE and the Applicant [REP4-040 and REP5-11].

No pathways of effect were identified by the Applicant due to changes in air quality or harm to or disturbance of mobile (non- avian) qualifying features.

The effects considered by the Applicant in the HRA Report [REP8-013] to have the potential to result in LSEs during construction, operation, and decommissioning of the Project were:

- Loss of FLL for qualifying bird species;
- Disturbance/ displacement of qualifying bird species using FLL; and
- Disruption of flight paths of qualifying bird species as a result of glint and glare.

Section 4.8 of the HRA Report provides the screening conclusions provided by the Applicant. The potential for LSE alone was identified for the following four protected sites:

- Lower Derwent Valley SPA;
- Lower Derwent Valley Ramsar;
- Humber Estuary SPA; and
- Humber Estuary Ramsar.

At the end of Examination, no further concerns were raised by the ExA or IPs in relation to the Applicant's conclusions of LSE alone during construction, operation and decommissioning.

3.2 Likely Significant Effects in-combination

The potential for LSE in-combination with other projects was identified for the following four protected sites (as per Project alone):

- Lower Derwent Valley SPA;
- Lower Derwent Valley Ramsar;
- Humber Estuary SPA; and
- Humber Estuary Ramsar.

The selection of relevant plans and projects for the in-combination assessment are detailed by the Applicant in Section 6 of the HRA Report. Applications within 10km of the Proposed Development were reviewed by the Applicant based on the identified potential impacts and pathways as identified in Section 4 of the HRA Report. Plans and projects were considered for the in-combination assessment if they were located within 5km of the Project or consisted of a large installation of a solar related development within 10km. During Examination further justification of the screening methodology for projects to be considered in the in-combination assessment was requested from the ExA. The Applicant updated the HRA Report and there is relevant information (associated with cumulative effects assessment) in Chapter 8 of the ES [APP-028], including a Figure displaying the spatial orientation of cumulative projects [APP-109].

Projects considered in the in-combination assessment were not specifically detailed separately in the screening assessment undertaken by the Applicant, however, and as noted by the ExA, the assessment of impact pathways is considered to apply to Project alone and in-combination effect [ER 4.2.11].

White no additional effects were noted to be screened in by the Applicant, as a result of in-combination projects, in the Applicants AA, all impacts considered by each of the screened in projects are noted in Table 10[9] of the HRA Report, including:

- Noise and visual disturbance (construction and decommissioning phases);
- Water quality (construction, operation and decommissioning phases);
- Loss of functionally linked habitat (operational phase); and
- Atmospheric pollution (construction and decommissioning phases).

At the end of Examination, the ExA, NE were satisfied with the approach taken by the Applicant and agreed with the conclusion [ER 4.2.34].

3.3 Likely Significant Effects conclusion

The Secretary of State has carefully considered the potential effects of the Project on all qualifying features of the protected sites identified, and raised during the Examination, taking into account their conservation objectives, to determine whether there will be LSEs in the context

[9] Noted as Table 6.2 in the HRA report within the text (labelled as Table 10 in the Table heading)

of the Habitats Regulations. The Secretary of State considers that sufficient information has been provided to inform an assessment in line with his duties under the Habitats Regulations.

Based on the information before him, the views of IPs and NE, as well as the recommendations of the ExA, the Secretary of State concludes that LSE from the Project, alone and in-combination with other plans or projects, could occur during construction, operation, and decommissioning of the Project. Table 1 of this document presents the protected sites for which the Secretary of State considers that significant effects cannot be excluded, either alone or in-combination, alongside the qualifying features and effects that have been considered in the screening of LSE. Table 1 of this document therefore presents the protected sites taken forward to AA to consider whether the Project would result in an AEoI.

4 Appropriate Assessment Methodology

The requirement to undertake an AA is triggered when a competent authority, in this case the Secretary of State, determines that significant effect on a protected site either alone or in-combination with other plans or projects can-not be ruled out for a plan or project. Guidance issued by DEFRA[10] states that the purpose of an AA is to assess the implications of the plan or project in respect of the site's conservation objectives, either individually or in-combination with other plans and projects, and that the conclusions should enable the competent authority to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus is therefore specifically on the species and/or habitats for which the protected site is designated.

In line with the requirements of Regulation 63 of the Habitats Regulations:

"*In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given*."

The purpose of this AA is to determine whether an AEoI on the features of the protected sites identified in Table 1 of this HRA, as a result of the Project alone or in-combination with other plans or projects, can be excluded in view of the site's conservation objectives and using the best scientific evidence available.

In accordance with the precautionary principle embedded in the integrity test and established through case law, the Secretary of State may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the protected site, and this must be demonstrated beyond all reasonable scientific doubt. If the Secretary of State cannot exclude AEoI of the affected protected sites beyond all reasonable scientific doubt, then he can only agree to a plan or project if it complies with the requirements of Regulation 64 of the Habitats Regulations. Regulation 64 provides that the Secretary of State may agree to the plan or project only if satisfied that there are no alternative solutions, that the plan or project must be carried out for imperative reasons of overriding public interest (IROPI) and compensatory measures are secured to ensure that the overall coherence of the network of European sites is maintained.

[10] https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

5 Stage 2: Appropriate Assessment

The Secretary of State has undertaken an objective scientific assessment of the implications of the Project on the qualifying features of the protected sites identified in his screening assessment, using the best scientific evidence available. The assessment has been made in light of the site's conservation objectives.

5.1 Loss of functionally linked habitat during operation[11] for qualifying bird species – Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar

In Section 5.3 of the HRA Report [REP8-013], the Applicant assessed the potential for an AEoI of the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar from the Project alone and in-combination with other plans and projects as a result of loss of FLL during operation, and noting that habitat loss for qualifying bird species could occur at the point of construction and continue until decommissioning. FLL is considered with regards to non-breeding species where these form either a qualifying species or an assemblage species of the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar.

No direct habitat loss would take place within the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar. To assess loss of FLL the Applicant undertook an assessment of the identification of the functional linkage between the Project Order Limits and Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar qualifying bird species. The Applicant considered population and frequency use criteria (including use of non-breeding bird surveys within the Project Order Limits), desk top study record analysis and habitat suitability appraisal. This review undertaken by the Applicant is provided in Section 4.10 of the HRA Report and was developed through the Examination period following comments made by NE in their Relevant Representation [RR-268].

During Examination, the Applicant produced a technical note in response to the matters raised on FLL by NE in REP4-041. In the SoCG with NE it is confirmed that suitable updates were made to the HRA Report relating to the criteria for determining FLL.

The Applicant states that following review of field survey data, records searches and an analysis of the habitats (crop-types) found within and adjacent to the Project Order Limits, the Project order Limits are not considered to represent FLL for any SPA qualifying species or SPA assemblage (Humber Estuary SPA and the Lower Derwent Valley SPA). However, following acknowledgment on matters raised by NE, the Applicant notes there is some evidence of limited use by one declining assemblage species (lapwing). Lapwings were recorded on 11 of the 12 visits in the 2021/2022 survey period. Numbers ranged from 0 to 211 birds, with an average of

[11] Noting that Habitat loss for qualifying bird species could occur at the point of construction and continue until decommissioning is completed.

54.8 birds (median 53.5 birds). NE consider that mitigation for lapwings should be provided prior to commencement of construction works. While the Applicant considers the Project Order Limits show inconsistent use by low numbers of birds, mitigation is provided for non-breeding lapwing. Agreement on the mitigation for lapwing is demonstrated in the SoCG with NE.

The lapwing mitigation consists of the provision of two fields, comprising a total of 37.09ha, which will be managed for lapwing. These measures are detailed in Section 5.2 of the HRA report and included in the outline Landscape Ecological Management Plan (LEMP). The LEMP, which must align with the outline LEMP, is secured in Requirement 10 of the DCO and requires NE approval.

By the end of Examination NE [REP5-021, REP5-009] agreed with the conclusion made by the Applicant that an AEoI from loss of FLL could be ruled out. The mitigation for lapwing is secured in requirement 10 of the DCO, and in Deadline 10 NE confirmed that this was appropriate. No further concerns were raised by IPs or the ExA.

Based on the information before him, and subject to the mitigation measures as secured in the final Order, the Secretary of State is satisfied that the Project, either alone or in-combination with other plans or projects, will not adversely affect the integrity of the qualifying features of the Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar as a result of loss of FLL.

5.2 Disturbance of qualifying bird species using Functionally Linked Land during construction and decommissioning – Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar

In Section 5.4 and 5 of the HRA Report [REP8-013], the Applicant assessed the potential for an AEoI of the Lower Derwent Valley SPA/Ramsar and the Humber Estuary SPA/Ramsar from the Project alone and in-combination with other plans and projects as a result of disturbance during construction, operation and decommissioning.

The Applicant identifies that the potentially disturbing activities include the movements of vehicles, increased human presence, noise and light spillage. Disturbance could reduce feeding efficiency and/or lead to changes in species distribution and therefore contradict the conservation objectives of the SPA/ Ramsar sites.

The Applicant considers that during the operational phase, disturbance or displacement could occur, but this is considered likely to be comparable to, or less than, current farming related activity levels.

It is noted in this document that glint and glare effects are considered in Section 5.3 and that further details on the usage of the Project Order limits by qualifying and assemblage species is outlined in this document in Section 5.1 above.

The Applicant and NE engaged directly in regard to noise matters raised by NE in their Relevant Representation [RR-268]. At Deadline 4, NE confirmed (REP4-053) the HRA Report had been suitably updated to consider noise impacts to land adjacent to the Project Order Limits.

The Applicant, in the HRA Report notes there will be inconsequential disturbance of qualifying species as the Project is not considered to constitute FLL and is of very low (to no) value for SPA qualifying species with numbers of qualifying species consistently low.

In regard to assemblage species the Applicant in their HRA Report state that based on bird numbers recorded and data analysis, disturbance of assemblage species using FLL will be inconsequential. As noted in Section 5.1 of this document NE disputed the assessment of FLL and in response the Applicant has provided mitigation for non-breeding lapwing. It is highlighted by the Applicant that the two fields within the Project Order Limits that have been identified to provide lapwing mitigation are sufficiently distant from development activities, with disturbance considered to be negligible. As such it is considered by the Applicant that adequate habitat is available for non-breeding lapwings at all times. The final SoCG with the Applicant confirms that this is agreed by NE, and it is also highlighted that mitigation measures to reduce disturbance during construction are provided in the outline Construction Environmental Management Plan (CEMP), which is secured in the DCO.

As well as the consideration given to the disturbance to the lapwing mitigation areas, the assessment of disturbance undertaken by the Applicant includes consideration of land within the Project Order limits and 600m out with the site. The only habitat feature identified to support SPA species is a lake adjacent to field 339. The Applicant notes in the HRA Report that the lake is 200m from the underground cable corridor to the grid connection and is visually shielded by a large area of farmland and mature woodland/tree belt, therefore the potential for disturbance of waterbirds located within this lake is considered likely to be negligible. NE agree that significant noise and visual disturbance effects can be ruled out for the lake adjacent to Field 339.

Using the available information of non-breeding bird surveys to assess the potential for disturbance of qualifying SPA species, the in-combination effects are presented by the Applicant as non-significant due to the lack of cumulative flocks of SPA species using the arable land within the Project Order Limits or in close proximity to the Project Order Limits.

NE [REP5-009] confirmed the mitigation secured was appropriate and agreed with the conclusion of no AEoI to FLL from noise and visual disturbance for ornithological features of the Humber Estuary and Lower Derwent Valley SPA/Ramsar sites [ER 4.4.16]. No further concerns were raised by the ExA or IPs.

Based on the information before him the Secretary of State is satisfied that the Project, either alone or in-combination with other plans or projects, will not adversely affect the integrity of the qualifying features of the Lower Derwent Valley SPA and Ramsar and the Humber Estuary SPA and Ramsar from disturbance.

5.3 Disruption of flight paths of qualifying bird species due to Glint and Glare during operation – Lower Derwent Valley SPA/Ramsar and Humber Estuary SPA/Ramsar

In Section 5.5 and 6 of the HRA Report [REP8-013], the Applicant assessed the potential for an AEoI of the Lower Derwent Valley SPA/Ramsar and the Humber Estuary SPA/Ramsar from the

Project alone and in-combination with other plans and projects due to disruption of flight paths of qualifying bird species due to glint and glare during operation.

The Applicant [REP8-013] identified the low risk of visual disturbance, stating there are no known cases of waterbird colliding with solar panels and highlighted the lack of evidence to demonstrate that the impact would be of a higher risk. It is also noted by the Applicant that the configuration of the land parcels and solar PV modules (as displayed in the glint and glare study [REP4-010]) will help break up any potentially reflective area and reduce the likelihood of birds perceiving them as waterbodies. Further, the Applicant highlights in the HRA Report, the low number of observations of birds moving through the Project Order Limits.

NE in their Relevant Representation [RR-268], advise that the consideration of glint and glare should be included in the HRA Report. The Applicant engaged with NE to provide the required information and in the SoCG [REP5-009] between the Applicant and NE, it is confirmed that based on the updated information provided in the HRA Report that no further assessment of glint and glare is required by NE.

In-combination effects are not presented by the Applicant for each impact separately, however Section 6 of the HRA Report highlights the lack of cumulative flocks of SPA species using the arable land within the Project Order Limits or in close proximity to the Project Order Limits. The HRA Report notes the extremely low levels of activity recorded during the passage and over-wintering periods within the Project Order Limits. Table 10 of the HRA Report within the in-combination assessment (Section 6) also lists visual disturbance where this has been considered by the projects included in the in-combination assessment. As such, the in-combination effects are presented as non-significant in the HRA Report.

It is confirmed by NE [REP5-009] that there is agreement with the conclusion of no AEoI to ornithological features of the Humber Estuary SPA/Ramsar and Lower Derwent Valley SPA/Ramsar sites as a result of disruption to flight paths from glint and glare to adjacent functionally linked land [ER 4.4.20]. No further concerns were raised by the ExA or IPs.

Based on the information before him the Secretary of State is satisfied that the Project, either alone or in-combination with other plans or projects, will not adversely affect the integrity of the qualifying features of the Lower Derwent Valley SAC and River Derwent in regards to disruption to flights paths due to glint and glare.

5.4 Appropriate Assessment conclusion

As the competent authority under the Habitats Regulations for this Application under the Planning Act 2008, the Secretary of State has undertaken an AA in respect of the conservation objectives for four protected sites to determine whether the Project, either alone or in-combination with other plans or projects, will result in an AEoI.

The Secretary of State has carefully considered all the information available to him, including the recommendations of the ExA, the advice of NE as the SNCB, the views of all other IPs, and the Applicant's case.

Based on the available information before him, and subject to the mitigation measures as secured in the final Order, the Secretary of State is satisfied that the Project, either alone or in-combination with other plans or projects, will not adversely affect the qualifying features of the Lower Derwent Valley SPA/Ramsar, and Humber Estuary SPA/Ramsar. The Secretary of State is satisfied that further tests set out in the Habitats Regulations are therefore not required.

6 Transboundary assessment

The Secretary of State considers that it is important to consider the potential impacts on protected sites in other European Economic Area ("EEA") states, known as transboundary sites. The ExA also considered the implications for transboundary sites. The conclusions of the ExA's considerations and the Secretary of State's own views on this matter are presented below.

On 14 June 2022, following the Applicant's request for an EIA scoping opinion, PINS provided a transboundary screening opinion [APP-112]. PINS considered that the likelihood of transboundary effects resulting from the Project was so low that it did not warrant the issue of a detailed transboundary screening.

Pursuant to Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and the United Nations Environment Programme Convention on Biological Diversity 1992 initial screening was undertaken on 14 July 2022, and a second on the 02 October 2024 following submission of the Application documents. On both screening occasions, PINS considered that the Project was unlikely to have a significant effect either alone or in-combination on the environment in an EEA state. No transboundary consultations were undertaken.

The applicant did not identify any LSE on non-UK European sites in EEA states in its HRA report [APP-151][12] or within its ES [APP-019 – APP-180]. In consideration of impact pathways, no protected sites beyond 10km were identified to be included in the screening assessment. As such, no non-UK European sites in EEA were included in the Applicants final HRA Report [REP8-013] or within its ES [APP-019 – APP-180]. No impacts to protected sites outside of the UK were raised for discussion by any IPs during the Examination, including following publication of the Inspectorate's transboundary screening[13].

The Secretary of State has not been presented with any evidence to demonstrate that transboundary impacts would have an AEoI on any protected site in an EEA state. As such, the Secretary of State is satisfied that the Project, either alone or in-combination with other plans or projects, would not have an AEoI on any transboundary protected site. The Secretary of State is satisfied that further stages of a transboundary assessment are therefore not required.

[12] Or within updated versions through Examination

[13] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010140/EN010140-000474-EN010140%20-%20Regulation%2032%20Transboundary%20Screening.pdf

7 Conclusion

The Applicant provided multiple updates of the HRA Report [REP4-021; REP5-006; REP6-012]; REP8-013] to address the matters raised during Examination.

In the NE response [REP8-024] to the RIES, NE confirmed that the RIES accurately reflected their views that all matters were agreed and there were no outstanding disagreements on the conclusions of the final HRA Report [REP8- 013] [RE 4.2.7].

The Secretary of State has carefully considered all information presented within the Application, during the Examination, and the representations made by NE and all IPs, along with the ExA's Recommendation Report.

The Secretary of State concludes that LSEs cannot be excluded at four protected sites, when the Project is considered alone or in-combination with other plans or projects. These LSEs were taken forward to an AA to consider whether the Project would result in an AEoI of the protected sites.

Having considered the information available to him and having made a full assessment of the potential for an AEoI of each of the protected sites for which the potential for LSE was identified, taking into account the views of the Applicant, NE, all IPs, as well as the ExA, the Secretary of State concludes that an AEoI can be excluded beyond reasonable scientific doubt, subject to the measures secured through the final Order.

As such, the Secretary of State is satisfied that there is no significant risk to any protected site and their qualifying features as a result of the Project and considers that no further tests set out in the Habitats Regulations are required.

Table 1: Protected sites considered in the assessment of LSE and AEoI.

Protected site	Qualifying feature(s)[14]	Conservation Objectives and SACOs	Potential for Likely Significant Effects
Humber Estuary SPA	Avocet (Recurvirostra avosetta), Breeding Avocet (Recurvirostra avosetta), Non-breeding Bar-tailed godwit (Limosa lapponica), Non-breeding Bittern (Botaurus stellaris), Breeding Bittern (Botaurus stellaris), Non-breeding Black-tailed godwit (Limosa limosa islandica), Non-breeding Dunlin (Calidris alpina alpina), Non-breeding Golden plover (Pluvialis apricaria), Non-breeding Hen harrier (Circus cyaneus), Non-breeding Knot (Calidris canutus), Non-breeding	Conservation objectives, see footnote[15] SACO, see Footnote[16]	Loss of FLL for qualifying bird species Disturbance/ displacement of qualifying bird species using FLL Disruption of flight paths of qualifying bird species as a result of glint and glare

[14] It is noted that all breeding bird features are screened out, with non-breeding (wintering and passage) birds associated with the protected sites considered in the AEoI assessment

[15] https://designatedsites.naturalengland.org.uk/ConservationAdvice.aspx?SiteCode=UK9006111&SiteName=Humber%20Estuary%20SPA&SiteNameDisplay=Humber%20Estuary%20SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=15&SiteNameDisplay=Humber%20Estuary%20SPA#hlco

[16] https://designatedsites.naturalengland.org.uk/ConservationAdvice/SupplementaryAdvice.aspx?SiteCode=UK9006111&SiteName=Humber%20Estuary%20SPA&SiteNameDisplay=Humber+Estuary+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=15

	Little tern (Sternula albifrons), Breeding Marsh harrier (Circus aeruginosus), Breeding Redshank (Tringa totanus), Non-breeding Ruff (Calidris pugnax), Non-breeding Shelduck (Tadorna tadorna), Non-breeding Waterbird assemblage, Non-breeding		
Humber Estuary Ramsar	Wetland of International Importance Ramsar Criterion 1 The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons. It is a large macro-tidal coastal plain estuary with high suspended sediment loads, which feed a dynamic and rapidly changing system of accreting and eroding intertidal and subtidal mudflats, sandflats, saltmarsh and reedbeds. Examples of both strandline, foredune, mobile, semi-fixed dunes, fixed dunes and dune grassland occur on both banks of the estuary and along the coast. The estuary supports a full range of saline conditions from the open coast to the limit of saline intrusion on the tidal rivers of the Ouse and Trent. Wave exposed sandy shores are found in the outer/open coast	For available information see Footnote[17]	Loss of FLL for qualifying bird species Disturbance/ displacement of qualifying bird species using FLL Disruption of flight paths of qualifying bird species as a result of glint and glare

[17]https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK11031&SiteName=Humber%20Estuary%20Ramsar&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

	areas of the estuary. These change to the more moderately exposed sandy shores and then to sheltered muddy shores within the main body of the estuary and up into the tidal rivers. The lower saltmarsh of the Humber is dominated by common cordgrass Spartina anglica and annual glasswort Salicornia communities. Low to mid marsh communities are mostly represented by sea aster Aster tripolium, common saltmarsh grass Puccinellia maritima and sea purslane Atriplex portulacoides communities. The upper portion of the saltmarsh community is atypical, dominated by sea couch Elytrigia atherica (Elymus pycnanthus) saltmarsh community. In the upper reaches of the estuary, the tidal marsh community is dominated by the common reed Phragmites australis fen and sea club rush Bolboschoenus maritimus swamp with the couch grass Elytrigia repens (Elymus repens) saltmarsh community. Within the Humber Estuary Ramsar site there are good examples of four of the five physiographic types of saline lagoon. Ramsar Criterion 3: The Humber Estuary Ramsar site supports a breeding colony of grey seals Halichoerus grypus at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast. The dune slacks at Saltfleetby-Theddlethorpe on the southern extremity of the Ramsar site are the most north-easterly breeding site in Great Britain of the natterjack toad Bufo calamita. Ramsar Criterion 5 Assemblages of international importance:		

	153,934 waterfowl, non-breeding season 5-year peak mean 1996/97-2000/2001) Ramsar Criterion 6: Species/populations occurring at levels of international importance: • Common shelduck • Golden plover • Knot • Dunlin • Black-tailed godwit • Bar-tailed godwit • Common redshank • Redshank Ramsar Criterion 8 The Humber Estuary acts as an important migration route for both river lamprey Lampetra fluviatilis and sea lamprey Petromyzon marinus between coastal waters and their spawning areas		
Lower Derwent Valley SPA	Bewick's swan (Cygnus columbianus bewickii), Non-breeding European Golden plover (Pluvialis apricaria), Non-breeding Ruff (Calidris pugnax), Non-breeding Eurasian Wigeon (Mareca penelope), Non-breeding	Conservation objectives, see footnote[18]	Loss of FLL for qualifying bird species Disturbance/ displacement of qualifying bird species using FLL

[18] https://designatedsites.naturalengland.org.uk/ConservationAdvice.aspx?SiteCode=UK9006092&SiteName=Lower%20Derwent%20Valley%20SPA&SiteNameDisplay=Lower%20Derwent%20Valley%20SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=7&SiteNameDisplay=Lower%20Derwent%20Valley%20SPA#hlco

	Eurasian Teal (Anas crecca), Non-breeding Northern Shoveler (Spatula clypeata), Breeding Waterbird assemblage, Non-breeding	SAOC, see Footnote[19]	Disruption of flight paths of qualifying bird species as a result of glint and glare
Lower Derwent Valley Ramsar	Alluvial flood meadow Assemblage of migratory waders Teal (Anas crecca) Waterbird assemblage Wetland invertebrate assemblage Wigeon (Mareca Penelope)	For available information see Footnote[20]	Loss of FLL for qualifying bird species Disturbance/ displacement of qualifying bird species using FLL Disruption of flight paths of qualifying bird species as a result of glint and glare

[19] https://designatedsites.naturalengland.org.uk/TerrestrialAdvicePDFs/UK9006092.pdf

[20]https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK11037&SiteName=lower%20derwent%20valley&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=

Author: Energy Infrastructure Planning
Department for Energy Security and Net Zero

Date: 3 December 2025