



Dean Moor Solar Farm

Environmental Statement: Chapter 8 – Biodiversity on behalf of FVS Dean Moor Limited

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DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
CHAPTER 8 – ~~BIODIVERSITY~~BIODIVERSITY
PLANNING INSPECTORATE REFERENCE EN010155
PREPARED ON BEHALF OF FVS DEAN MOOR LIMITED

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
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8 Environmental Statement (ES) Chapter 8: Biodiversity

8.1 Introduction

8.1.1 This chapter of the Environmental Statement (ES) reports on the assessment of the likely significant effects of the Proposed Development on the environment with respect to biodiversity.

8.1.2 This chapter is supported by the following figures **[REF: 6.2]**:

- Figure 8.1: Statutory Designated Sites; and
- Figure 8.2: Non-statutory Designated Sites and Notable Habitats.

8.1.3 This chapter is supported by the following appendices **[REF: 6.3]**:

- Appendix 8.1: Preliminary Ecological Appraisal ('PEA') and Great Crested Newt ('GCN') Report;
- Appendix 8.2: National Vegetation Classification ('NVC') Survey Report;
- Appendix 8.3: Bat Survey Report;
- Appendix 8.4: Otter and Water Vole Survey Report;
- Appendix 8.5: Breeding Bird Survey Report;
- Appendix 8.6: Wintering Bird Survey and Hen Harrier Survey Report;
- Appendix 8.7: Shadow Habitats Regulations Assessment ('sHRA');
- Appendix 8.8: Biodiversity Net Gain ('BNG') Report; and
- Appendix 8.9: Stakeholder Engagement.

8.2 Legislation and Planning Policy Context

Legislation

8.2.1 This section summarises the relevant legislation pertaining to designated areas, habitats and species mentioned within this chapter. The assessment for the Proposed Development will take account of legislation, national and local policy, and any licensing requirement to safeguard protected species.

Environment Act 2021¹

- 8.2.2 The Environment Act 2021 was originally published by the UK Government in October 2019 and enacted into law in November 2021. The Environment Act 2021 sets out the UK Government's objectives to restore natural habitats and increase biodiversity and includes proposals to make BNG a mandatory requirement for development in England.
- 8.2.3 Biodiversity metrics provide a measure of overall biodiversity value based in habitat type, area, condition and distinctiveness. The current approved metric is Defra's Statutory Metric². Biodiversity is calculated pre and post development. The change in biodiversity units indicates either a net loss, a net gain, or no change in biodiversity.
- 8.2.4 Schedule 14 makes provision for BNG to be a condition of planning permission in England, while Schedule 15 makes provision about BNG in relation to development consent for NSIPs. Once the relevant provisions come into effect, the Environment Act 2021 will require all development schemes to achieve a minimum 10% net gain in biodiversity units relative to the Site's baseline biodiversity value.
- 8.2.5 The Government intends that the BNG requirement should apply across all terrestrial infrastructure projects accepted for examination by the Planning Inspectorate through the NSIP regime by November 2025. As such, projects accepted prior to this date are not required to deliver BNG. ~~The Applicant intends to deliver BNG.~~ The Applicant intends to deliver BNG voluntarily in accordance with the Environment Act but the supporting regulations which have been published more recently (e.g. The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024) do not apply³. The approach is set out later in this chapter.

¹ HM Government (2021). Environment Act 2021 c. 30

² The Statutory Biodiversity Metric User Guide (2024) DEFRA The Statutory Biodiversity Metric. Accessed November 2024

³ HM Government (2024) The Biodiversity Gain Requirements (Irreplaceable Habitats) Regulations Accessed July 2025

Conservation of Habitats and Species Regulations 2017 (as amended)⁴

- 8.2.6 The Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations') transpose the requirements of the EC Habitats Directives⁵ and Nature Directives⁶ into UK law and provide for the designation and protection of European sites⁷ (and adapt planning and other controls for the protection of these sites). European sites include Special Areas of Conservation ('SAC'); proposed SACs; Special Protections Areas ('SPAs'), and European sites consisting of marine areas. The Habitats Regulations includes Annex I (including habitats) and Annex II (including species) for which such sites can be designated.
- 8.2.7 The Habitats Regulations also provide protection for certain European Protected Species ('EPS') that are listed in Schedule 2 (animals) or Schedule 5 (plants) of the Habitats Regulations. Provision is made for the granting of licences that permit certain acts as lawful, providing the appropriate authority is satisfied that there is no satisfactory alternative, and the favourable conservation status of the species will be maintained.
- 8.2.8 The 2019 amendment to the Habitats Regulations⁸ means that SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network following the UK's exit from the EU. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:
- Existing SACs and SPAs; and
 - New SACs and SPAs designated under these Regulations.
- 8.2.9 No steps that will impact upon an EPS or the habitat which it occupies can be undertaken unless authorised by an EPS mitigation licence issued by

⁴ HM Government (2017). The Conservation of Habitats and Species Regulations 2017 no. 1012

⁵ HM Government (1992). Council Directive 92/43/EEC of 21 May 2002 on the Conservation of natural habitats and of wild fauna and flora

⁶ HM Government. Directive 2009/147/EC of the European Parliament and of the Council of 20 November 2009 on the Conservation of Wild Birds

⁷ HM Government (2017) Regulation 8 of The Conservation of Habitats and Species Regulations, 2017 No. 1012, Part 1, Regulation 8.

⁸ HM Government (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 No. 579

Natural England. Such a licence can only be issued after planning consent has been granted and once Natural England is satisfied that adequate measures are in place to mitigate for the impact of a development. The need for an EPS licence is addressed in the impact assessment for each relevant species in both construction and operation impacts.

Wildlife and Countryside Act 1981 (as amended)⁹

- 8.2.10 The Wildlife and Countryside Act ('WCA') has been amended by the Countryside and Rights of Way ('CRoW') Act 2000¹⁰.
- 8.2.11 Schedules 1 (birds) and 5 (animals) of the WCA identify species of bird and other animal to which the Act makes killing, injuring, taking and disturbing an offence, while Schedule 8 to the Act lists species of plant to which the Act makes it an offence to intentionally pick, uproot or destroy.
- 8.2.12 Section 14(2) of the WCA makes it an offence to cause any species of plant listed in Schedule 9 of the Act to grow in the wild.
- 8.2.13 The WCA also provides for notification and confirmation of Sites of Special Scientific Interest ('SSSI') for their flora, fauna, geological or physiographical features and contains measures for the protection and management of SSSIs.

The Natural Environmental and Rural Communities Act 2006¹¹

- 8.2.14 The Natural Environmental and Rural Communities ('NERC') Act 2006 sets a duty on public bodies (including Local Authorities) to conserve biodiversity, which includes restoring or enhancing species populations or habitat.
- 8.2.15 In England, section 41 of the NERC Act requires the Secretary of State for Environment to publish and maintain a list of habitats and species that are of '*principal importance*' for the purpose of conserving biodiversity and are regarded as conservation priorities under the UK Post-2010 Biodiversity

⁹ HM Government (1981). Wildlife and Countryside Act 1981 c. 69

¹⁰ HM Government (2000) Countryside and Rights of Way Act 2000 c. 37

¹¹ HM Government (2006) Natural Environment and Rural Communities Act 2006 c. 16

Framework. The S.41 list includes 56 habitats and almost 1,000 species. The list is used by decision-makers, such as Local Authorities, in implementing their protection duties when carrying out their functions.

- 8.2.16 Since the UN Convention on Biological Diversity in 2010 the UK identifies these habitats and species as conservation priorities under the UK Post-2010 Biodiversity Framework, (they were formerly identified as UK Biodiversity Action Plan ('BAP') habitats and species).
- 8.2.17 National Planning Policy Framework ('NPPF')¹² chapter 15 guides LPAs to create policies which promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species.

Hedgerow Regulations 1997¹³

- 8.2.18 The Hedgerow Regulations 1997 made it an offence to remove or destroy certain '*important*' hedgerows in England and Wales without permission from the LPA. The criteria determining whether the hedgerow is '*important*' are defined in the Hedgerow Regulations 1997 and relate to biodiversity and archaeological interest, associated features and setting in the landscape.

Wild Mammals (Protection) Act, 1996 (as amended)¹⁴

- 8.2.19 Under the Wild Mammals (Protection) Act 1996 it is an offence to cause unnecessary suffering to wild mammals, including crushing and asphyxiating. This Act is primarily concerned with animal welfare and aims to prevent cruelty. As a result, offences include those actions with the intent to inflict unnecessary suffering. A wild mammal includes any mammal which is not domestic or captive. Red foxes, wild deer, and other mammals such as rabbits are therefore covered by the Act.

¹² HM Government (2024). MHCLG National Planning Policy Framework December 2024.

¹³ HM Government (1997). The Hedgerows Regulations 1997 No. 1160

¹⁴ HM Government (1996) Wild Mammals (Protection) Act 1996 c. 3.

Salmon and Freshwater Fisheries Act 1975¹⁵

8.2.20 This Act sets out provisions for protecting freshwater fish, including, but not limited to salmon, trout, eels and lamprey. These protections relate to fishing methods employed; the safeguarding of spawning areas; and avoidance of knowingly causing pollutants to enter watercourses which have the potential to poison fish or impact spawning grounds.

Eels (England and Wales) Regulations 2009¹⁶

8.2.21 These Regulations relate to the protection of eels, including their aquaculture, import and export, and fishing of wild stocks. It also addresses construction of new dams, and obstruction of passage of eels around such structures. There are obligations placed on individuals who alters or maintains a dam and prior to doing so must first notify the appropriate agency.

Planning Policy

National Policy

~~8.2.20~~**8.2.22** Under the Planning Act 2008 ('PA 2008'), the Secretary of State is directed to determine a DCO application with regard to the relevant National Policy Statement ('NPS'), the local impact report, matters prescribed in relation to the Proposed Development, and any other matters regarded by the SoS as important and relevant. There are three NPSs which are considered to be 'relevant NPS' under Section 104 of the Act:

- Overarching NPS for Energy ('EN-1') (January 2024)¹⁷; and
- NPS for Renewable Energy Infrastructure ('EN-3') (January 2024)¹⁸.

Overarching NPS for Energy

~~8.2.21~~**8.2.23** Section 3 of EN-1, which explains the need for new NSIPs, highlights that when considering the '*economic and efficient*' approach the

¹⁵ [HM Government \(1975\) Salmon and Freshwater Fisheries Act 1975 Part II Accessed July 2025](#)

¹⁶ [HM Government \(2009\) The Eels \(England and Wales\) Regulations \(SI 2009/3344\)](#)

¹⁷ HM Government (2024). DESNZ. Overarching National Policy Statement for Energy (EN-1).

¹⁸ HM Government (2024). DESNZ. National Policy Statement for Renewable Energy Infrastructure (EN-3).

'network project' also needs to follow good design, avoidance, and mitigation principles (and/or biodiversity compensation where needed for transmission in marine environment).

8.2.228.2.24 Section 4.6 'Environmental and Biodiversity Net Gain' of EN-1 sets out the general policies for the submission and assessment of applications relating to energy infrastructure. This states:

'4.6.2 - Biodiversity net gain is an essential component of environmental net gain. Projects in England should consider and seek to incorporate improvements in natural capital, ecosystem services and the benefits they deliver when planning how to deliver biodiversity net gain.'

'4.6.6 Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, or the wider environment where possible.'

4.6.7 - 'In England applicants for onshore elements of any development are encouraged to use the latest version of the biodiversity metric to calculate their biodiversity baseline and present planned biodiversity net gain outcomes. This calculation data should be presented in full as part of their application.'

4.6.8 - Where possible, this data should be shared, alongside a completed biodiversity metric calculation, with the Local Authority and Natural England for discussion at the pre-application stage as it can help to highlight biodiversity and wider environmental issues which may later cause delays if not addressed.'

4.6.10 - 'Biodiversity net gain should be applied after compliance with the mitigation hierarchy and does not change or replace existing environmental obligations, although compliance with those obligations will be relevant to the question of the baseline for assessing net gain and if they deliver an additional enhancement beyond meeting the existing obligation, that enhancement will count towards net gain'.

4.6.11 - 'Biodiversity net gain can be delivered onsite or wholly or partially off-site. We encourage details of any off-site delivery of biodiversity net gain to be set out within the application for development consent.'

8.2.238.2.25 Section 5.4 'Biodiversity and Geological Conservation' states in paragraph 5.4.2, that:

'The aim is to halt overall biodiversity loss in England by 2030 and then reverse loss by 2042, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people'.

8.2.248.2.26 This section goes on to state that:

'5.4.33 – 'Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity'.

5.4.35 - 'Applicants should include appropriate avoidance, mitigation, compensation, and enhancement measures as an integral part of the development'.

The NPS for Renewable Energy Infrastructure ('EN-3')

~~8.2.25~~8.2.27 Section 2.10 of EN-3 2.10 'Solar Photovoltaic Generation' provides guidance on what should be assessed as part of the development of solar farms and how impacts should be identified.

~~8.2.26~~8.2.28 It refers to Section 5.4 ('Biodiversity and Geological Conservation') of EN-1 while paragraphs 2.10.75 to 2.10.92 provide further details on what applicants should consider. Notably paragraph 2.10.89 states that:

'Solar farms have the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed. In some instances, this can result in significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains which is encouraged'.

~~8.2.27~~8.2.29 Within EN-3 applicants are encouraged to understand the impacts of lighting, topsoil stripping, water management, Sustainable Drainage Systems ('SuDS'), and site boundary management, in particular hedges and scrub, fencing as well as the use of permeable access tracks). Paragraph 2.10.90 states that:

'For projects in England, applicants should consider enhancement, management, and monitoring of biodiversity in line with the ambition set out in the Environmental Improvement Plan and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere'.

Local Plan

Allerdale Borough Council

~~8.2.28~~8.2.30 As of 1 April 2023, Allerdale Borough Council ('ABC') merged with Copeland Borough Council and Carlisle City Council to become Cumberland Council (the 'Council'), which is now the administrative authority within which the Site is located. The Site is located within the former administrative boundary of ABC.

~~8.2.29~~8.2.31 The following documents have been used to assess the Proposed Development against local planning policy:

- Allerdale Borough Council Local Plan (2014) (Part 1)¹⁹; and

¹⁹ Allerdale Borough Council (2014) Allerdale Local Plan (Part 1).

- Allerdale Borough Council Local Plan (2020) (Part 2)²⁰.

~~8.2.30~~8.2.32 ABC Local Plan Part 1 was adopted in July 2014 and contains the Council's planning policies for the use and development of land up to 2029 within the former ABC 'Plan Area'.

~~8.2.31~~8.2.33 The Local Plan Part 1 details a number of strategic policies, relating to the natural environment, which include the following:

- S33 Landscape;
- S34 Development in the Solway Coast AONB²¹;
- S35 Protecting and enhancing Biodiversity and Geodiversity;
- S36 Air, Water and Soil Quality; and
- S37 Shoreline Management and Coastal Development.

~~8.2.32~~8.2.34 The 'Landscape' policy (S33) sets out an approach to protect, conserve and, wherever possible, enhance the landscape character and local distinctiveness of the Plan Area.

~~8.2.33~~8.2.35 S33 states that policies will be assessed, with specific regards to biodiversity, in relation to '*Biodiversity features, ecological networks and semi-natural habitats*' amongst other topics.

~~8.2.34~~8.2.36 Policy S35 'Protecting and enhancing Biodiversity and Geodiversity' advises:

'Conditions for biodiversity will be maintained and improved and important geodiversity assets will be protected. Nationally and Internationally protected sites and species will be afforded the highest level of protection. A high priority is also given the protection of locally identified biodiversity or ecologically valuable assets. The Council will seek positive improvements to the quality of the natural environment through sustainable development resulting in net gains in biodiversity across the Plan Area.'

~~8.2.35~~8.2.37 Under S35, developments, projects, and activities will be expected to:

- '*Protect and enhance key ecological habitats and wildlife corridors and stepping stones including watercourses and wetlands;*

²⁰ Allerdale Borough Council (2020) Allerdale Local Plan (Part 2).

²¹ HM Government (2023). DEFRA. Under the Environmental Improvement Plan 2023. Areas of Outstanding Natural Beauty are now called National Landscapes.

- *Maintain, and where appropriate enhance, conditions for priority habitats and species identified in the Cumbria and UK Biodiversity Action Plan Priority species and habitats or the Cumbria Biodiversity Data Centre at Tulie House;*
- *Maintain and where appropriate enhance recognised geodiversity assets identified in the Local Geodiversity Action Plan for Cumbria;*
- *Protect soil and water resources in line with Policy S36;*
- *Contribute to Allerdale's green infrastructure network in line with Policy S24; and*
- *Protect existing trees, hedgerows and woodland (including ancient trees and hedgerows that are considered important to the local community, contribute positively to the character of the area and/or are of nature conservation value.'*

'Development that presents significant economic or social benefits for the local community may be permitted where the Council, in consultation with relevant partner organisations are satisfied that any necessary impacts can be mitigated or compensated through appropriate habitat creation, restoration or enhancement on-Site or elsewhere secured via planning conditions, agreements or obligations. Where a development poses significant harm to an irreplaceable habitat which cannot be mitigated or compensated for, permission will be refused'.

8.2.368.2.38 Policy S36 'Air, Water and Soil Quality' states:

'The quality of air and water resources within the Plan Area will be protected and opportunities for enhancement pursued. Unless adequate mitigation measures can be secured, development proposals will be resisted that would have a demonstrable direct and/or indirect adverse impact on:

- *Air quality and/or atmospheric conditions;*
- *The characteristics of surrounding soils and substrate through either physical (compaction, erosion) or chemical (pollution, contamination);*
- *The chemical composition and quality of waterbodies in the Plan Area; and*
- *The Water Framework Directive and the status of the watercourse'.*

'Whilst having regard for the economic and other benefits of the best and most versatile land, where development is considered necessary, the Council will seek to ensure the use of poorer quality land in preference to that of a higher quality'.

8.2.378.2.39 Policies S34 and S37 regarding development in the Solway Coast Area of Outstanding Natural Beauty ('AONB') (now referred to as a National Landscape) and 'Shoreline Management and Coastal Development' are not considered relevant to the Proposed Development.

8.2.388.2.40 In addition to the strategic policies for the natural environment, there is a development management policy, DM17 'Trees, Hedgerows and Woodland', which seeks to retain these features unless acceptable mitigation or compensation measures can be secured. Felling may be

permitted in exceptional circumstances while replacement planting that maintains local amenity, the character of the area, and nature conservation interest will be required.

~~8.2.39~~8.2.41 Part 2 of the Local Plan outlines the vision for ABC to be a place that has adapted to meet the challenges of climate change, has a diverse and extensive network of accessible green infrastructure, unspoilt landscape, and coastline and areas rich in biodiversity and geodiversity.

~~8.2.40~~8.2.42 Specifically, 'Theme 6' of Local Plan Part 2 focuses on the natural environment and is supported by a number of strategic objectives including:

- a. *'Protect and enhance the natural and historic landscape, including ancient woodland and geological asset, from unnecessary and harmful development, particularly the Solway Coast AONB and areas adjoining the National Park;*
- b. *Protect and enhance biodiversity and geodiversity notably the Natura 2000 sites and create ecologically diverse habitats across Allerdale and ensure the ability of habitats and species to adapt to climate change;*
- c. *Promote opportunities to improve access to the countryside and coast;*
- d. *Ensure high levels of water, and air quality are retained and where necessary improve, and safeguard agricultural land; and*
- e. *Promote, protect and provide a comprehensive network of green infrastructure, incorporating multi-functional green and blue spaces both within development, and linking across and between settlements throughout the area'.*

8.3 Assessment Methodology

Baseline Data Collection

Desk Study

8.3.1 Data regarding the Site and surrounding area was obtained from online resources including the Multi-Agency Geographic Information for the Countryside ('MAGIC')²², Joint Nature Conservation Committee ('JNCC')²³, and Natural England²⁴ websites. The MAGIC website is an interactive map based on over 400 datasets which provides authoritative geographic information about the natural environment from across government. The

²² DEFRA. Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk Accessed October 2024

²³ Joint Nature Conservation Committee. Available at: <https://jncc.gov.uk/our-work/uk-protected-areas/> Accessed October 2024

²⁴ Natural England. Available at: <https://designatedsites.naturalengland.org.uk/> Accessed October 2024

information covers rural, urban, coastal and marine environments across Great Britain.

8.3.2 The proposed search areas from the Site boundary were as follows:

- 10km radius from the Site boundary for internationally designated sites, to be extended beyond this radius where any impact pathways are known to occur;
- 2km radius from the Site boundary for all other statutory and non-statutory locally designated sites; and
- 2km radius from the Site boundary for notable habitats, including ancient woodland and Habitats of Principal Importance.

8.3.3 To augment this, data on non-statutory designated sites and protected species was obtained from Cumbria Biodiversity Data Centre ('CBDC') in May 2023. The Cumbria Bird Club ('CBC') was also contacted in October 2023 to better understand the nature of bird records to inform the need and scope of hen harrier surveys.

Zone of Influence

8.3.4 The Study Area for assessment has been based on the current guidance for Ecological Impact Assessment ('EclA')²⁵. The Study Area for the biodiversity assessment, including distances used for assessing the baseline, comprises the Site and the Zone of Influence ('Zol') over which likely significant effects would be expected to impact on the ecological features. The Zol over which likely significant effects would be expected to impact on the ecological features considered in this Chapter is variable, dependent on the sensitivity of the ecological feature and the effects being considered. Good practice guidance published peer reviewed papers and ecological experience and understanding all contribute to determination of the Zol and therefore Study Area, for each ecological feature.

8.3.5 In addition, the Applicant reviewed the ES produced for the Potato Pot Wind Farm²⁶ ('the Wind Farm') (within the Site in Area D) planning

²⁵ Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (2018). Chartered Institute for Ecology and Environmental Management.

²⁶ Planning Ref. 2/2012/0594 Airvolution Energy, Potato Pot Wind Farm ES, Chapter 6, Ecology and Ornithology, chapter undated

application, particularly in relation to bird and bat surveys conducted in 2011 and 2012.

Field Surveys

Preliminary Ecological Appraisal

- 8.3.6 Habitats within the Site were surveyed and mapped in accordance with the UK Habitat Classification System ('UKHab')²⁷. The survey was then 'extended' to include an appraisal of the habitats' suitability for protected species. This included a search for signs of protected species or the species themselves. Such signs, and habitat features suitable for protected species were target noted where appropriate. The survey was undertaken with reference to the Chartered Institute of Ecology and Environmental Management ('CIEEM') Guidelines for Preliminary Ecological Appraisal ('PEA')²⁸ and was completed on 26 April 2023, the survey report is provided at Appendix 8.1.

National Vegetation Classification

- 8.3.7 A botanical survey using NVC methodology²⁹ was carried out at three locations in Area C of the Site in August 2023 given the presence of more diverse flora observed during the extended UKHab survey.
- 8.3.8 To identify plant communities, the field data were run through the program Modular Analysis of Vegetation Information System ('MAVIS')³⁰. MAVIS is a program that assigns vegetation data to a number of different classification systems including NVC, based on the 'goodness of fit' with published community types. The survey report is at Appendix 8.2.

Badger Survey

²⁷ UKHab Ltd (Version 2) (2018-2024) Butcher, B, Edmonds, G, Norton L. And Treweek, J.

²⁸ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal - 2nd Ed. Chartered Institute for Ecology and Ecological Management

²⁹ National Vegetation Classification Users' Handbook. Joint Nature Conservation Committee (2006) Rodwell J.S. (2006).

³⁰ Modular Analysis of Vegetation Information System (version 1.03). Centre for Ecology and Hydrology CEH (2016).

- 8.3.9 During the field survey all land within the Site, and including a 30m buffer, was assessed for the presence of badgers, including a search for setts, latrines and tracks.

Great Crested Newt Survey

- 8.3.10 A review of the Site and 250m buffer using Ordnance Survey ('OS') maps identified six ponds. This buffer was considered suitable due to the upland nature of the Site, that it was dominated by intensively grazed habitats, and that results of the desk study confirmed only a single record of GCN was identified approximately 1.15km from the Site.
- 8.3.11 Of these ponds, two to the east were inaccessible while four located on Site were accessible. These were further assessed on the 5 May 2023 for their potential to support GCN using the Habitat Suitability Index ('HSI') scoring method³¹. From each pond, 20 water samples were collected using the standard sampling method³² and subject to environmental DNA ('eDNA') analysis for GCN.
- 8.3.12 Further to the eDNA survey, a single visit to ponds 2, 3, and 4 was undertaken to undertake egg searching, bottle trapping and torching using standard guidance³³.

Bat Surveys

- 8.3.13 Trees and structures within the Site were inspected from the ground to assess their potential for supporting roosting bats in line with Bat Conservation Trust Guidance³⁴. Using the same guidance, the habitat across the Site was also assessed for its suitability to support foraging and commuting bats using static bat detectors distributed across the Site. Although this guidance was updated in 2023³⁵, the approach for assessing

³¹ Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). (2000) Oldham, R.S.; Keeble, J. Swan, M.J. and Jeffcote, M. Herpetological Journal 10 (4): 143-145

³² Analytical and methodological development for improved surveillance of the Great Crested Newt (2014) Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R. A., Foster, J., Wilkinson, J., Arnett, A., Williams, P., & Dunn, F. Defra Project WC1067 Appendix 5. Oxford: Freshwater Habitats Trust

³³ Great Crested Newt Conservation Handbook (2001) Langton, S. Beckett, C. and Foster, J. Froglife.

³⁴ Bat Surveys for Professional Ecologists: Good Practice Guidelines. (2016) Collins, J. Bat Conservation Trust: Guidelines 3rd Edition

³⁵ Bat Surveys for Professional Ecologists: Good Practice Guidelines. (2023) Collins, J. Bat Conservation Trust: Guidelines 4th Edition

features and habitats suitable for bats is generally similar such that there is no difference in the assessment presented in this chapter. The survey report is provided in Appendix 8.3.

Otter and Water Vole Survey

- 8.3.14 An otter and water vole survey were carried out on three water courses and three ponds within the Site following industry guidance^{36, 37}. Surveys were carried out on 6 July 2023 and 11 October 2023 by suitably qualified and experienced ecologists. The survey report is at Appendix 8.4.
- 8.3.15 Surveys recorded features likely to represent the presence of each species such as holts, couches, spraints, feeding remains or tracks for otters; or burrows, latrines, feeding stations for water voles. To support surveys, four trail cameras were deployed at sprainting locations to determine if they were deposited by otter or mink.

Breeding Bird Survey

- 8.3.16 Breeding bird surveys were carried out across the Site comprising seven visits between March to July 2023 using survey guidance³⁸. The location and activity of each bird detected was recorded such that its breeding status could be assigned as non-breeding/possible breeding or probable/confirmed breeding. The survey report is at Appendix 8.5.

Wintering Bird Survey

- 8.3.17 Two wintering bird characterisation surveys were undertaken in February and March 2023 using a walkover methodology³⁹ to inform a wintering bird survey covering the 2023/2024 winter period. The wintering bird survey which included visits to detect early migratory and passage birds was carried out between September 2023 and March 2024. The survey report forms part of Appendix 8.6.

³⁶ Ecology of the European Otter. (2003) Chanin, P. Conserving Natura 2000 Rivers Ecology Series. **10**. Peterborough. English Nature

³⁷ The Water Vole Mitigation Handbook (2016) Dean, M. Strachan, R., Gow, D. and Andrews, R.) Published by The Mammal Society.

³⁸ Bird Survey Guidelines for Assessing Ecological Impacts (v1.1.0) Bird Survey and Steering Group Website. <https://birdsurveyguidelines.org/> Accessed November 2023

³⁹ Bird Survey and Assessment Steering Group (2023). Available at: <https://birdsurveyguidelines.org/> Accessed November 2023

Hen Harrier Survey

- 8.3.18 Winter hen harrier surveys were undertaken across the Site between November 2023 and March 2024 and adopted a non-standard survey methodology which was precautionary and included more surveys than recommended⁴⁰. Two vantage points combining to give good visibility across the Site were used to determine the presence of winter roost sites or important foraging areas. The survey report forms part of Appendix 8.6.

Assessment

- 8.3.19 The assessment of impacts to biodiversity receptors follows the standard industry approach as set out in Guidelines for Ecological Impact Assessment in the UK and Ireland⁴¹. For the purposes of this assessment, a 'worst case' approach has been adopted when considering impacts.
- 8.3.20 The impact assessment process involves:
- Identifying and characterising impacts and their effects;
 - Incorporating measures to avoid and mitigate negative impacts and effects;
 - Assessing the significance of any residual effects after mitigation;
 - Identifying appropriate compensation measures to offset significant residual effects; and
 - Identifying opportunities for ecological enhancement.
- 8.3.21 The terms impact and effect are used within this chapter in accordance with the following definitions (as provided by the CIEEM guidelines):
- Impact: actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow; and
 - Effect: outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow.
- 8.3.22 Where an effect could be one of two gradings, professional judgement is used and explained to determine which effect is applicable.

⁴⁰ Gilbert, G., Gibbons, D.W and Evans, J. (1998) Bird monitoring methods: A manual of techniques for UK key species. The Royal Society for the Protection of Birds (RSPB), Sandy, Bedfordshire, England.

⁴¹ CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. V1.2 (Updated April 2022) Chartered Institute of Ecology and Environmental Management.

- 8.3.23 An importance level is attributed to each ecological feature in accordance with CIEEM's geographic framework within this chapter. The geographical framework has used the following levels of nature conservation importance:
- International / European;
 - National;
 - Regional;
 - County (Cumbria);
 - Local; and
 - Site.
- 8.3.24 To determine the likelihood of a significant ecological effect, it is necessary to identify whether an ecological feature is sufficiently important for a significant effect upon it to be material in decision-making. Ecological features of 'Local' level importance or above are classified as being 'Important' ecological features. Identified 'Important' ecological features are considered in full within this chapter to ensure the assessment focuses only on impacts which are potentially environmentally significant.
- 8.3.25 Where protected or controlled species are present within or adjacent to the Proposed Development, which are not considered 'Important' ecological features, measures are included in the mitigation package to ensure legal compliance.
- 8.3.26 A logical and transparent assessment of impacts and associated effects on each 'Important' ecological feature is presented in this chapter for construction and operation of the Proposed Development.
- 8.3.27 The assessment of significance is in line with CIEEM guidance:
- 'When assessing significance, "significance" is an effect that either supports or undermines biodiversity conservation objectives for important ecological features'.*
- 8.3.28 A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project. However, a significant effect does not necessarily equate to an effect so severe that consent for the project should not be given.

- 8.3.29 Significant effects are qualified with reference to the appropriate geographic scale (shown above), noting that the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For the purposes of this chapter, effects will be categorised as 'significant' or 'not significant', in line with the EIA Regulations.
- 8.3.30 The evaluation of significant effects is based on the best available scientific evidence and the results of both primary and secondary data sources, in particular, that gained from both desk and field surveys. Where there is reasonable doubt on the level of significant effects the precautionary principle has been adopted such that where it is not possible to robustly justify a conclusion of 'no significant effect', a significant effect is assumed.
- 8.3.31 Furthermore, significant effects are assessed in the context of the predicted baseline conditions within the Zol(s) during the lifetime of the Proposed Development.
- 8.3.32 To determine the overall significance of each ecological effect, judgements on the sensitivity of the receptor(s) and the magnitude of impact from the Proposed Development are considered together to determine whether an effect is likely to be significant.
- 8.3.33 When describing ecological impacts and effects, reference is made to the following characteristics as required: positive or negative, extent, magnitude, duration, timing, frequency, and reversibility. Descriptions of these characteristics are presented in Table 8.1.

Table 8.1: Characterising Ecological Impacts

Characteristic	Description
Extent	The spatial or geographical area over which the impact/effect may occur under a suitably representative range of conditions.
Magnitude	The size, amount, intensity, and volume. It should be quantified if possible and expressed in absolute terms.
Duration	This should relate to the ecological receptor as well as human timeframes. It should account for impacts of short duration, but which may have longer

Characteristic	Description
	term effects. Duration can be described as short, medium, or long-term and permanent and temporary although they should be defined in months/years.
Timing and Frequency	This relates to when an activity occurs, in particular with reference to sensitive periods for the receptor (e.g. breeding season) and the number of times the activity occurs.
Reversibility	An irreversible effect is one from which recovery is not possible within a reasonable time scale. Reversible effects include those which are spontaneous, or which can be counteracted by mitigation.

- 8.3.34 The assessment concludes with the residual effects on biodiversity resources in accordance with CIEEM guidance stating whether effects are significant or not significant at the relevant geographical level of importance.
- 8.3.35 In addition to assessing impacts of the Proposed Development, cumulative impacts where there are multiple activities or projects occurring within a given zone of influence are addressed. Cumulative impacts can make habitats and species more vulnerable or sensitive to change.
- 8.3.36 Potential significant effects on 'Important' ecological features are identified along with the mitigation and/ or management measures required to prevent, reduce or off-set any significant adverse effects. Significant beneficial environmental effects are also highlighted.

Habitats Regulations Assessment

- 8.3.37 To determine the likely significant effects on European sites a sHRA (Appendix 8.7) accompanies this chapter. It details the presence of the European sites, their qualifying features and conservations objectives, and the likely significant effects which may occur as a result of the Proposed Development.

Scoping and Consultation

- 8.3.38 This section describes the scope of this Biodiversity assessment, including how the assessment has responded to the EIA Scoping Opinion (Appendix 2.2) [REF: 6.3]. A description of the consultation and engagement undertaken with relevant technical stakeholders to develop and agree this scope is also provided.

- 8.3.39 Engagement in relation to Biodiversity has been undertaken within a number of stakeholders throughout the EIA process. The stakeholders consulted were: Natural England; the Environment Agency ('EA'); Cumbria Wildlife Trust ('CWT'), and the Council.

Scoping

- 8.3.40 The EIA Scoping Report set out the proposed scope and assessment methodologies to be employed in the EIA and is provided in Appendix 2.1 **[REF: 6.3]**.
- 8.3.41 In response to the EIA Scoping Report, an EIA Scoping Opinion was received from the Planning Inspectorate on 14 September 2023 and is provided at Appendix 2.2.
- 8.3.42 Those matters identified by the Planning Inspectorate in the EIA Scoping Opinion that relate to biodiversity have been extracted and set out in Table 8.2, along with the Applicant's response to these matters. In addition, in response to these matters raised by the Planning Inspectorate, specific correspondence was undertaken with Natural England on the need for, and scope of, wintering bird and hen harrier surveys.

Table 8.2: Applicant's response to the Planning Inspectorate EIA Scoping Opinion

Ref	Summary of Inspectorate's comments	Response
Para 8.7.2 and Table 4.7	<u>Impacts of operational traffic and access – noise, vibration, and visual disturbance:</u> <i>'The Inspectorate agrees that on the basis of the information provided, impacts associated with operational traffic and access from noise, vibration are unlikely to result in significant effects relating to noise, vibration and visual disturbance and therefore these matters can be scoped out.'</i>	Impacts of operational traffic and access - noise, vibration and visual disturbance are scoped out of the assessment.
Para 8.7.3	<u>Potential effects on designated sites and notable habitats due to a reduction in air quality from increased traffic exhaust emissions</u> <i>'Provided that the ES description of development includes sufficient detail to demonstrate that construction and operational traffic movements will not exceed the IAQM criteria and given the temporary nature of the movements, the Inspectorate agrees that this matter may be scoped out of further assessment.'</i>	The Site and Proposed Development is described in Chapter 3 [REF: 6.1]. The Construction and Decommissioning Methodology is included in Chapter 5 [REF: 6.1].
Para 8.7.8 and Table 4.7	<u>Lighting</u> <i>'The Inspectorate does not agree that lighting effects on sensitive ecology can be scoped out as there is insufficient evidence that lighting disturbance would not have a significant effect.</i> <i>In the absence of details regarding the duration and type of construction or decommissioning lighting and the potential for bats to be present within the receiving environment, subject to confirmation by surveys, it is considered that construction lighting impacts on biodiversity should be scoped in at this time. The ES should assess impacts on ecological receptors from lighting where significant effects are likely to occur and demonstrate measures taken to avoid disruption of ecological corridors</i> <i>The ES should include a detailed description of the lighting design and the measures taken to avoid or minimise lighting impacts on biodiversity, including consideration of effects relating to intermittent lighting sources such as motion activated security lighting should this be proposed.</i> <i>The ES should be clear as to how emergency lighting will be assessed and should clearly describe the full extent and characteristics of any proposed lighting. In relation to human disturbance, the ES should be clear as to whether this lighting has been considered separately or as part of the assessment for human disturbance.'</i>	The Site and Proposed Development Description is in Chapter 3. Construction activities, where possible, will occur during day light hours. In the unlikely event that night works are necessary then they will be temporary, and care would be taken not to illuminate sensitive features such as hedgerows. Further information is in Chapter 5 Construction and Decommissioning Methodology and Phasing, and the Outline Construction and Environmental Management Plan ('OCEMP') (Appendix 5.1) which includes details on lighting. [REF: 6.3]. Details on operational lighting are included in the Outline Operational Management Plan ('OOMP') (Appendix 3.1) [REF: 6.3]. Ecologically sensitive lighting is also included in the Outline Landscape and Ecological

Ref	Summary of Inspectorate's comments	Response
		Management Plan ('OLEMP') (Appendix 7.7) [REF: 6.3].
Table 8.3	<u>Habitat loss, disturbance and fragmentation - modified sheep grazed grassland</u> <i>'The loss, disturbance and fragmentation of modified sheep grazed grassland habitat may be required to facilitate construction and decommissioning of the Proposed Development. ...</i> <i>In the absence of information, such as evidence demonstrating clear agreement with relevant consultation bodies and further details of the proposed habitat to be scoped out, the Inspectorate is not in a position to agree to scope this matter out. Accordingly, the ES should include an assessment of this matter, or information demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.'</i>	Work No. 6 (Green Infrastructure) and the Landscape Strategy Plan (Figure 7.6.1-7.6.5) [REF: 6.2] outlines the area that will be enhanced with additional planting to support green infrastructure and reduce impacts caused by habitat loss, disturbance and fragmentation. The BNG Report (Appendix 8.8) details how habitats will be created and enhanced to mitigate for those loss of sheep grazed pasture. How these habitats are created and managed during establishment is in the OLEMP (Appendix 7.7) [REF: 6.3]. Work No. 1 [REF: 2.3] also demonstrates the area of solar arrays which include appropriate buffers to retain and protect existing features such as hedgerows and watercourses.
Table 8.3	Bats (foraging and commuting) <i>'The Scoping Report states that existing habitats of value to foraging and commuting bats will be retained and enhanced ensuring there would be no operational impacts, and that potential construction and decommissioning phase impacts can be avoided.</i> <i>The Inspectorate does not agree that this matter can be scoped out in the absence of sufficient evidence.... The ES should provide an assessment of the impacts of the Proposed Development on the existing habitats used by bats for foraging and commuting so that it is clear whether any significant effects are likely during all stages, and if mitigation measures are required how these would be secured.'</i>	Work No. 6 [REF: 2.3] and the Landscape Strategy Plan (Figure 7.6.1-7.6.5) shows the extent of Green Infrastructure which will be retained and enhanced, as set out in the OLEMP, which will support foraging and commuting bats. The Bat Survey Report (Appendix 8.3) provides details on bat assemblage on the Site and forms the basis of the assessment.
Para 8.7.6 and Table 8.3	<u>Dormice</u> <i>....'The Scoping Report does not explain whether dormice are present or absent within the study area.</i> <i>.... In the absence of information such as evidence demonstrating clear agreement with relevant</i>	Dormouse have been scoped out of this assessment and a rationale provided in this chapter.

Ref	Summary of Inspectorate's comments	Response
	<i>statutory bodies, the Inspectorate is not in a position to agree to scope these matters from the assessment. Accordingly, the ES should include an assessment of these matters or the information referred to demonstrating agreement with the relevant consultation bodies and the absence of a likely significant effect.'</i>	
Para 8.3.8 and Table 8.3	<u>Ancient woodland – construction and decommissioning</u> <i>'Ancient woodland adjacent to the Proposed Development site has been scoped into the assessment for the operational phase but not during construction or decommissioning. The Inspectorate considers that effects during construction and decommissioning should also be scoped into the assessment of likely significant effects.'</i>	No ancient woodland is present on the Site and will not be affected by construction or decommissioning. Ancient woodland off-Site will be protected by no construction or decommissioning works occurring within 15m of the ancient woodland. As secured in the Work Plans and ES Figure 3.5: Exclusion Areas [REF: 6.2].
Para 8.2.1	<u>Study area</u> <i>'...The ES should ensure the study area reflects the project's Zone of Influence (ZOI) rather than being based on a fixed distance. The ES should consider the potential for effects to occur beyond 10km, particularly where designated sites are designated for mobile species such as birds and bats. Effort should be made to agree the study area(s) with relevant consultation bodies.'</i>	The ES includes an assessment of all sites within the Proposed Development's ZOI. European sites within 10km have been considered and impacts to qualifying species have been included within the sHRA included at Appendix 8.7.
Section 8.3	<u>Baseline environment - veteran and ancient trees</u> <i>'The ES should be supported by appropriate baseline data, including field survey, to identify the presence and condition of existing veteran and ancient trees, including hedgerow trees. Effects on ancient and veteran trees should be addressed in the ES, where there is potential for likely significant effects to occur.'</i>	The Arboricultural Impact Assessment ('AIA') (Appendix 7.8) [REF: 6.3] has identified the presence and condition of veteran or ancient trees, and any potential significant effects.
Section 8.3, Para 8.8.4, Table 8.1 and 8.2	<u>Baseline environment</u> <i>'The ES should explain how the importance of ecological features has been determined, with reference to baseline data, relevant guidance and professional judgement. The Applicant should make effort to agree the list of 'important' ecological features with the relevant local authorities and Natural England.</i> <i>The ecological baseline should be evidenced by comprehensive surveys in line with relevant guidance, and this should be confirmed in the ES.'</i>	This assessment follows the CIEEM Guidelines and values the importance of ecological features with reference to a geographical framework (i.e., a feature may be of, 'Site', 'Local', 'County', 'National', or 'International' importance). This is informed by the results of the targeted ecological surveys, and with

Ref	Summary of Inspectorate's comments	Response
		reference to published data on conservation status.
Para 8.3.14	<u>Species considered likely to be absent from the Proposed Development site - surveys</u> <i>'No evidence of the presence of badgers, and of great crested newts (GCN) at on-site ponds were found in May 2023 surveys. Most of the habitat within the Site is also intensively sheep grazed pasture and considered unlikely to support a notable invertebrate assemblage.</i> <i>Evidence demonstrating that these species are absent at the time that any DCO application is submitted and clear agreement with relevant statutory bodies, where possible, should be submitted with the ES.</i> <i>The ES should ensure the ecological baseline is robust and justify the extent and scale of surveys undertaken. The Applicant should seek agreement from relevant consultation bodies on the scale and extent of any surveys undertaken, evidence of which should be provided within the DCO application.'</i>	Given the nature of the intensively farmed landscape and the isolation of ponds it is considered unlikely that the baseline ecology will change significantly ahead of the submission of the DCO application. Prior to the commencement of works pre-construction surveys for protected species will be undertaken, as outlined in the OCEMP (Appendix 5.1).
Para 8.3.14	<u>Ponds and hedgerows</u> <i>'The ES should clearly identify all hedgerows and ponds for retention and ensure that appropriate mitigation measures are set out to avoid likely significant effects during the construction, operation and decommissioning phases.'</i>	The Landscape Strategy Plan (Figure 7.6.1 to 7.6.5) of Chapter 7 – Landscape and Visual [REF: 6.1] provide details of retained and enhanced features, including hedgerows and ponds. This is also set out in Work No. 6, although such features across the Site will be protected in accordance with mitigation set out in the OCEMP, the OLEMP (Appendix 7.7), and the Framework Decommissioning Management Plan ('FDMP') (Appendix 5.4) [REF: 6.3] for construction, operation, and decommissioning phases respectively.
Section 8.6 and Para 8.8.5-8.8.10	<u>Likely significant effects</u> <i>'The ES should clearly define what effects are deemed significant and explain how those conclusions have been reached.'</i>	The ES has adopted the EclA guidelines when assessing significance and this is set out in this chapter.
Para	<u>Biodiversity enhancement measures</u> <i>'The ES should distinguish between measures intended to avoid or reduce the potential for likely</i>	The ES distinguishes between measures intended to avoid or reduce the

Ref	Summary of Inspectorate's comments	Response
8.6.3 and 8.8.12	<i>significant effects, or those which have been identified for enhancement only.'</i>	potential for likely significant effects, or those which have been identified for enhancement only.
n/a	<u>Invasive Non-Native Species ('INNS')</u> <i>'Impacts from INNS have not been included in the impacts set out to be assessed in the ES in the Scoping Report. The ES should assess potential impacts from INNS where significant effects are likely to occur. Where mitigation measures are required, the ES should describe these measures and signpost how they would be secured through the DCO.'</i>	No INNS have been recorded on-Site and therefore no impacts are expected. To safeguard the Site during construction, works will follow a Biosecurity Management Plan set out in the OCEMP (Appendix 5.1). During operation, activities will conform to a Biosecurity Management Plan set out in the in the OLEMP (Appendix 7.7).
Appx 8.1	<u>Hen harrier</u> <i>'The Inspectorate notes the Preliminary Environmental Assessment recommends that up-to-date information on the location of hen harrier sensitive locations is secured and that consultation for the scope of further bird surveys is undertaken with relevant consultation bodies.</i> <i>Given the findings of the Preliminary Environmental Assessment, the Inspectorate recommends that a desk-study is undertaken with the results determining the need for further survey work. The Applicants attention is drawn to Natural England's response (Appendix 2 of the Opinion) in this regard.'</i>	The Applicant submitted a request to Natural England to use their Discretionary Advice Service ('DAS') to discuss the scope of bird survey work. The Applicant received current desk study data on hen harrier sensitive locations. Natural England agreed the proposed survey methodology for hen harrier as presented in this Chapter and Appendix 8.6.
n/a	<u>Mitigation and enhancement measures</u> <i>'In the event that measures to mitigate the effects of the Proposed Development or to provide ecological enhancement are proposed, the ES should explain how management of new/enhanced habitats would be undertaken.'</i>	Details as to how mitigation and enhancement measures are managed are included in the OLEMP.
Para 4.7.40	<u>Mitigation and enhancement measures</u> <i>'The Applicant's attention is drawn to the Environment Agency's consultation response (Appendix 2 of this Opinion) with regard to impacts on the Dean Moor CWS and the need for the Proposed Development to enhance and/or expand the wet acid moorland habitat present on-Site. The ES should explain how the CWS has been considered in the design of the Proposed Development and any enhancement if considered necessary.'</i>	Impacts to Dean Moor CWS have been assessed as part of this chapter and mitigation and enhancement has been incorporated at design inception, principally the avoidance of the erection of solar arrays in so far as is practicable (Work No. 1). Further, CWT have been consulted on proposed enhancement measures and the CWS will promote

Ref	Summary of Inspectorate's comments	Response
		biodiversity across the wider area, as well as achieve a BNG above 10%. The CWS will be protected during construction and decommissioning as set out in the OCEMP (Appendix 5.1) and the FDMP (Appendix 5.4) while its enhancement and management is set out in the OLEMP (Appendix 7.7).
n/a	<u>Confidential annexes</u> <i>'.... Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex...'</i>	Field surveys did not confirm the presence of sensitive species records, so no confidential annexes are included in this chapter.

Consultation

- 8.3.43 The Consultation Report **[REF: 5.1]** submitted alongside the DCO application contains a full account of the previous statutory consultation process and issues raised in feedback. Matters raised regarding the scope, methodology or mitigation considered as part of the biodiversity assessment were then subject to further discussions directly with stakeholders.

Engagement

- 8.3.44 The Applicant has corresponded with Natural England in relation to the scope of winter bird surveys used to inform the ES and sHRA (Appendix 8.7), with correspondence available from Appendix 8.9. Initially an enquiry was made through Natural England's DAS on 13 September 2023 seeking confirmation on the scope of passage and wintering birds, specifically:

'To determine whether the Site is functionally linked to the Solway Firth SPA, it is intended to undertake a suite of passage and wintering bird surveys. Passage migrants will be surveyed twice in September 2023 and during a single visit in October 2023, while wintering bird surveys will commence in October 2023, with one survey being carried out each month until March 2024. Survey methodology will rely on two transects covering the northern and southern halves of the Site and all target birds will be recorded on each visit. Target species will be SPA

qualifying species and include flocks of geese (pink-footed and greylag), waders (golden plover, curlew and snipe), raptors (barn owl, short-eared owl and hen harrier) and flocks of gulls and large flocks of farmland passerines. The purpose of submitting this DAS is to confirm that NE see this as sufficient survey effort to determine if the land is functionally linked to the Solway Firth SPA/ Ramsar and which can be used to inform a sHRA.'

8.3.45 A response from Natural England confirmed:

'The methodology proposed for passage and wintering birds is suitable for the majority of bird species however a more specific survey will be required to assess the hen harrier usage of the area, as well as by other raptors. Ideally these surveys should be vantage point surveys every 2 weeks across the full winter season. Dusk surveys will be required usually commencing 45 minutes before sunset until it is dark and should be sited where there is suitable habitat to provide shelter, protection, and food. Bog or wet pastures with scattered scrub and rush are often favoured by hen harrier'.

8.3.46 The Applicant undertook further correspondence with Natural England on 1 November 2023 on the proposed scope of hen harrier surveys. Their response on 9 November 2023 confirmed that *'One of our ornithologists has reviewed the scope you provided and advises this methodology will be sufficient subject to the ground truthing of the VP locations to ensure they are optimal.'*

8.3.47 An online meeting was held between Natural England and the Applicant on 2 December 2024 to provide a general project update, an overview of survey results, details of mitigation and enhancement, and the next steps relating to a Statement of Common Ground ('SoCG'). During this meeting the Applicant discussed the results of the wintering bird survey with reference to the sHRA (Appendix 8.7). The Applicant also requested any information which may be held by Natural England relating to GCN and dormouse.

8.3.48 Details of flocks of SPA qualifying features was passed to Natural England on 3 December 2024 and a draft of the sHRA provided on 12 December 2024 for consideration. A response from Natural England was received on 23 January 2025 and confirmed that a colony of herring gull generally roost further south at the Sellafeld site, so are actually functionally linked to the Morecambe Bay & Duddon Estuary SPA.

- 8.3.49 As the majority of the survey counts for herring gull favoured the Study Area as a loafing area, rather than feeding, the actual ecological dependence on the Site is likely to be low. Full details of correspondence is available from Appendix 8.9.
- 8.3.50 Both prior to and during the consultation with Natural England, CBDC was contacted on 9 October 2023 to determine the nature of the sensitive bird records provided in a prior detailed data request made on 15 May 2023. A key for sensitive species, which included hen harrier, was provided on the same day.
- 8.3.51 Additionally, the CBC was contacted on 10 October 2023 to request any additional records which may not have been passed to CBDC, particularly for records of any recent breeding or winter roosts. Further records of hen harrier were provided, and these have been used to inform survey methodology.
- 8.3.52 Consultation was carried out with CWT on 2 May 2024 to discuss proposals associated with the Proposed Development within Dean Moor CWS, including ecological enhancement opportunities, the development of a GMP and the potential for solar infrastructure within the boundary of the CWS.
- 8.3.53 Further consultation was held with CWT on 18 November 2024 to determine an appropriate grassland classification for Dean Moor CWS to inform the BNG Metric and finalise proposed habitats within the BNG Report (Appendix 8.8). An online consultation with CWT was then held on 31 January 2025 to discuss habitat proposals within the CWS and across the Site.
- 8.3.54 To determine cumulative impacts associated with the construction and operation of Lostrigg Solar, which is contiguous with the northern boundary of the Site, consultation was undertaken with the project's ecological consultants on 26 September 2024. Further consultation to explore wintering bird data and understand impacts to SPA qualifying species was carried out on 11 December 2024.

8.3.55 Statutory consultation responses made to the PEIR are presented in the Table 8.3 below, alongside the Applicant's response.

Table 8.3: Statutory Consultee Comments and Responses

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
General	EA 26.4.24	<i>'Further clarification will be required regarding the approach to the Biodiversity Net Gain and how it will be delivered. We advise that opportunities in Local Nature Recovery Strategies and any mitigation measures listed for the affected waterbodies under Water Framework Directive are considered. Please note some additional surveys are required.'</i>	Approach to delivering BNG for the Proposed Development is set out in a detailed BNG Report included as Appendix 8.8.
Section 4.4.2	EA 26.4.24	Issue: <i>'The Thief Gill/Lostrigg Beck is designated a European eel migratory route and brown trout have been recorded on the Site. Neither species have been surveyed for, therefore the applicant should assume these species are present on the Site'</i> Impact: <i>'Despite the CEMP and SUDS in place, there is still the potential for sedimentation to negatively affect both species [eels and brown trout] during the construction and decommissioning periods.'</i> Solution: <i>'Habitat enhancements and mitigation measures should be proposed specifically for eels and brown trout.'</i>	Construction phase mitigation will be provided to safeguard these species, including pollution prevention and control measures to negate risks to water quality. During operation these watercourses will be enhanced in line with section 8.6 of this Chapter, and BNG Report.
PEIR Appendix 2.3 WFD Assessment Section 5.2	EA 26.4.24	Impact: <i>'We support the proposal to plant vegetation within the Thief Gill/Lostrigg Beck (Section 4.2.6) due to the current sparsity of vegetation (Section 2.3.5), but enhancements could go further.'</i>	Enhancement and management are set out in the OLEMP (Appendix 7.7), and the Landscape Strategy Plan (Figures 7.6.1 to 7.6.5) sets out the location of these enhancements along Thief Gill.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		Issue: <i>'Lack of ambition with regards to enhancing watercourse habitats on the Site [Thief Gill and Lostrigg Beck], considering the scale of the works.'</i> Solution: <i>'Enhancements to include bankside vegetation planting and improving in stream habitat, which would support issues identified within the River Marron Catchment Action Plan'</i>	
PEIR Chapter 8; Section 8.5.2	EA 26.4.24	Issue: <i>'Damage to establishment of vegetated buffer strips, from sheep grazing.'</i> Impact: <i>'Sheep may preferentially graze the sown species-rich grass mix, thereby preventing the establishment of vegetated buffer strips around the watercourse on site.'</i> Solution: <i>'Consider erecting exclusion fencing at terrestrial-edge of buffer strips along main watercourses (Thief Gill/Lostrigg Beck).'</i>	An Outline Grazing Management Plan ('OGMP') is included in the OLEMP. which will be secured by a DCO Requirement. Exclusion fencing at the edges of buffer strips to be considered within the next phase of design and as part of the GMP.
PEIR Chapter 8; Section 8.5.2	EA 26.4.24	Issue: <i>'There is no apparent reference to the width of the proposed buffer strips for the watercourses.'</i> Impact: <i>'Buffer strips need to be an appropriate width, to provide a suitable buffer and to effectively protect the watercourse from sediments, enable bank stabilisation'</i>	There will be no solar generating infrastructure from Work No. 1, 2, 4, or 5 permitted within 8m of the bank top of any watercourse. The 8m buffer is secured through the Works Plans within the DCO and is shown on Figure 3.5: Exclusion Areas [REF: 6.2].

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		<i>through vegetation establishment and allow space for commuting by mammals.'</i> Solution: <i>'Buffer strips should measure a minimum of 10m from the top of the riverbank to the development for all watercourses on the Site unless existing physical constraints prevent this.'</i>	
PEIR Chapter 8; Section 8.5.8	EA 26.4.24	Impact: <i>'The solar development area partly encroaches into the Dean Moor Farm County Wildlife Site (CWS).'</i> Issue: <i>'Whilst the solar arrays are to be located outside of purple moor-grass communities, there is a lack of ambition with regard to enhancing the CWS, considering the scale of the works.'</i> Solution: <i>'More ambitious habitat creation plan. The CWS could be further enhanced by expanding the purple moor-grass community on the Site, thereby refining the condition of the CWS, providing an enhancement under the BNG Metric, and adhering to the Allerdale Borough Council Local Plan to enhance conditions for priority habitats... identified in the Cumbria and UK Biodiversity Action Plan'</i>	Enhancements to Dean Moor CWS have been a fundamental part of the environmental design of the Proposed Development from the outset. These measures have been discussed with CWT on 2 May 2024. The proposed enhancements have been discussed with CWT, and the Applicant will continue to liaise with CWT prior to construction commencing. Management of enhancements and set out the OLEMP (Appendix 7.7).
PEIR Chapter 8; Section 8.5.52	EA 26.4.24	Impact: <i>'Loss of habitat enhancements and mitigation following decommissioning phase and reinstatement of land to agricultural use'</i>	The purpose of this ES is to assess the effects incurred during the lifecycle of the Proposed Development. The future land use beyond decommissioning is unknown and does not fall with the scope of this ES.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		Issue: <i>'Examples could include a loss of vegetated buffers around watercourses or decline of enhanced hedgerows if grazing pressure was increased'</i> Solution: <i>'Ongoing maintenance should be agreed through signed landowner agreements, to commit the next landowner to maintain such biodiversity enhancements for the future.'</i>	
PEIR Chapter 8; Section 8.6.2	EA 26.4.24	Issue: <i>'Proposal to install mammal gates along temporary fences/barriers during construction phase. However, there is no information on the specification or the target species (such as badger or otter) which these gates are to be designed for.'</i> Impact: <i>'Without knowing what these gates are designed for then we cannot advise on their effectiveness/ provide appropriate advice/ guidance. Without appropriate design protected species may be harmed.'</i> Solution: <i>'Provide further information and specification of mammal gates and the intended target species, to enable consultees to comment effectively'</i>	Gaps will be provided around the perimeter fence to allow species such as badger, hare, fox and hedgehog entry. The detailed design of ecological mitigation, including a commitment to mammal gaps around the perimeter is included in the OLEMP which is secured by a DCO Requirement.
PEIR Appendix 8.1 PEA Section 4.2.31	EA 26.4.24	Issue: <i>Recommendation in PEA regarding the creation of new wetland habitats, yet there appears to be no proposal to create wetlands in proposed enhancements.</i>	Pond habitats will be improved as part of the Proposed Development's Landscape Strategy Plan (Figure 7.6.1-7.6.5). Detail of the management of these habitats is set out in the OLEMP in Appendix 7.7.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		Impact: <i>'Lack of ambition with regards to enhancing wetland habitats on the Site, considering the scale of the works.'</i> Solution: <i>'Incorporate wetland creation into enhancement plan. Create wetland habitat in wet flush areas, for example by blocking up artificial drainage channels. This would also contribute to an improvement in water quality and provide natural flood management, therefore contributing to issues identified within the River Marron Catchment Action Plan.'</i>	
PEIR Appendix 8.1 PEA Appendix A	EA 26.4.24	Impact: <i>'Target note of rhododendron present in woodland located to the north-east, however there is no reference to methods on how to control this species to prevent spread.'</i> Issue: <i>'It is an offence under the Wildlife and Countryside Act 1981 (as amended) to allow the spread of a Schedule 9 species.'</i> Solution: <i>'Include measures to control and prevent the spread of rhododendron in a Biosecurity Plan.'</i>	The plant is not located on-Site. However, a Biosecurity Management Plan is included in the OCEMP for construction and the OLEMP to ensure this plant and other INNS do not spread and become established on-Site.
PEIR Appendix 8.4 Otter and Water Vole	EA 26.4.24	Issue: <i>'Water vole and Otter surveys were completed in 2023, and construction is projected to begin in 2026. There appears to be no mention of repeat surveys prior to construction. CIEEM's Advice Note 'On the lifespan of</i>	Pre-construction surveys for protected species, including otter and water vole, but also badger, will be carried out prior to construction.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
Survey Report		<i>ecological reports & surveys' states that species survey data may be out of date around 12-18 months following a survey.'</i> Impact: <i>'Otters are highly transitory species, therefore an otter could construct a holt prior to construction in 2026. This may result damage or destruction of holts or disturbance during construction, which are offences under the Conservation of Habitats and Species Regulations 2017 (as amended).'</i> Solution: <i>'An otter and water vole survey should be repeated pre-construction. Similarly, a badger survey should also be repeated.'</i>	Further information on pre-construction surveys is set out in the OCEMP (Appendix 5.1).
Dean and Distington Parish Councils	26.4.24	<i>'We expect corridors for nature to be created across the site linking to the significant surrounding areas of existing woodland...'</i>	Green corridors occur throughout the Site and are presented in Work No. 6 and the Landscape Strategy Plan (Figure 7.6.1-7.6.5).
Dean and Distington Parish Councils	26.4.24	<i>'We recognise that there will be a short term, negative but reversible impact to the biodiversity of the site whilst it is being constructed and during decommissioning. These time periods of negative impact, and the heavily developed and cleared ground planned for BESS, should be taken into account when calculating which enhancements are going to be put into place.'</i>	No Battery Energy Storage System ('BESS') is now part of the Proposed Development. Management during construction will be undertaken in accordance with the OCEMP.
Dean and Distington Parish Councils	26.4.24	<i>'The potential to develop further water features on the site should not be overlooked, as this would significantly increase the biodiversity of native plant,</i>	Existing water features, including ponds and streams, are being enhanced to promote opportunities for wildlife, enhance biodiversity and improve water quality. This is set out in the OLEMP (Appendix 7.7).

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		<i>insect and animal species and habitat on the site further...</i>	
Dean and Distington Parish Councils	26.4.24	<i>'Finally the documentation states that at decommissioning the land will revert to its former agricultural state. If this means returning all the habitat it to its current state, then it would seem a retrograde step to lose all the net biodiversity gains made during the life of the project. We would like more clarity on this to confirm there will be no loss of biodiversity at the time of decommissioning.'</i>	Following decommissioning, it is likely that the Site will revert to its pre-construction form.
PEIR Chapter 8; Section 8.3.25	Natural England 16.5.24	<i>'Natural England advise that a shadow Habitats Regulations Assessment will be needed to assess potential impacts on the River Derwent and Bassenthwaite Lake Special Area of Conservation (SAC). Potential disturbance impacts on otters should also be assessed in the HRA based on further survey work.'</i>	An sHRA is included as Appendix 8.7 and assesses the potential for likely significant impacts to the SAC qualifying features.
PEIR Chapter 8; Section 8.3.26	Natural England 16.5.24	<i>'The shadow HRA may also need to assess impacts on Solway Firth SPA birds dependent on the survey results.'</i>	The sHRA included as Appendix 8.7 assesses impacts to the SPA and its qualifying species.
PEIR Chapter 8; Section 8.3.29	Natural England 16.5.24	<i>'Natural England can review the results to date and provide advice as to whether further hen harrier surveys are required.'</i>	Noted.
PEIR Chapter 8; Section 8.4.50	Natural England 16.5.24	<i>'As above – impacts on otter will need to be assessed in a shadow HRA as they are a designated feature of the River Derwent & Bassenthwaite Lake SAC.'</i>	Otters are considered as part of the sHRA (Appendix 8.7).

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
PEIR Chapter 8; Section 8.4.59	Natural England 16.5.24	<i>'Natural England can advise further once we have sight of the results.'</i>	Noted.
PEIR Chapter 8; Section 8.5.4	Natural England 16.5.24	<i>'Pollution to designated sites during operation and maintenance should be scoped into the HRA.'</i>	A sHRA is included as Appendix 8.7 of this chapter.
PEIR Chapter 8; Section 8.5.6	Natural England 16.5.24	<i>'Further assessment will be required in the shadow HRA on construction phase.'</i>	A sHRA is included as Appendix 8.7 of this chapter.
PEIR Chapter 8; Section 8.5.21	Natural England 16.5.24	<i>'Construction phase impacts on otters will need to be assessed in the shadow HRA.'</i>	A sHRA is included as Appendix 8.7 of this chapter.
PEIR Chapter 8; Section 8.5.26	Natural England 16.5.24	<i>'Further assessment will also be required in the shadow HRA for any SPA qualifying species.'</i>	A sHRA is included as Appendix 8.7 of this chapter.
PEIR Chapter 8; Section 8.5.34	Natural England 16.5.24	<i>'Nature-based solutions should be used to manage and improve drainage on the Site such as natural drainage channels, ponds, and hedgerow and shrub planting. Spraying off vegetation to prevent it growing between the panels increases the risks of erosion, carbon emissions, run-off and pollution to watercourses. Associated infrastructure such as concrete surfaces and tracks should be designed to avoid direct run-off into watercourses and other sensitive areas.'</i>	Nature-based solutions, such as grazing, will be used to manage the Site where practical. On-Site drainage will be included and make use of landscape-led natural drainage measures alongside targeted SuDS for ancillary buildings. The approach to manage the Site is included in the OGMP which is included in the OLEMP (Appendix 7.7) and the FRA (Appendix 2.4) [REF: 6.3].

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
PEIR Chapter 8; Section 8.5.42	Natural England 16.5.24	<i>'Further assessment will be required in the shadow HRA.'</i>	A sHRA is included as Appendix 8.7 of this chapter.
PEIR Chapter 8; Section 8.5.43	Natural England 16.5.24	<i>'Loss of breeding bird habitat should be avoided, mitigated, or lastly compensated regardless of the habitat being common in the surrounding landscape.'</i>	Habitat protection by the inclusion of buffers along hedgerows and watercourses; the protection of trees; enhancement of grassland (including Dean Moor CWS); woodland; ponds and watercourses which includes riparian planting will benefit several breeding bird species. The relaxation of grazing across the Site will promote a diverse sward for ground nesters and reduce disturbance to those in boundary habitats like hedgerows. Green corridors are presented in Work No. 6 which indicate how habitat connectivity has been considered in the design of the Proposed Development in order to link adjacent habitats used by breeding birds.
PEIR Chapter 8; Section 8.5.45 and Section 8.5.53	Natural England 16.5.24	<i>'Further assessment will be required in the shadow HRA for any SPA qualifying species recorded on Site.'</i> <i>Further assessment will be required in the shadow HRA.'</i>	A sHRA is included (Appendix 8.7). This provides both the screening Assessment of European sites within the Zol and the details of qualifying features and conservation objectives of both SACs and the SPA. Those sites where likely significant effects have been identified will then be considered at the Appropriate Assessment Stage and mitigation presented to offset impacts. The sHRA considers the Proposed Development alone and in-combination with other projects or plans.
PEIR Chapter 8; Section 8.6.2	Natural England 16.5.24	<i>'See Table 2 below regarding soil excavation.'</i>	Acknowledged by the Applicant.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
PEIR Chapter 8; Section 8.6.3 and 8.6.4	Natural England 16.5.24	<i>'These mitigation measures should be included in the shadow HRA'</i>	A sHRA is included as Appendix 8.7.
PEIR Chapter 8; Section 8.6.16	Natural England 16.5.24	<i>'The LEMP should help establish clear objectives and responsibilities for management, maintenance and monitoring of the habitats created.'</i>	Management of enhancements, and their objectives, prescriptions and targets are set out the OLEMP (Appendix 7.7).
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'The development of the Site could lead to potential negative impacts to the designation features of Dean Moor CWS particularly within the construction and decommissioning phases. Therefore, we would like to see any high value habits within the Dean Moor CWS clearly marked and appropriate stand-off distances applied during development and decommissioning activities.'</i>	Only a small part of the CWS will be impacted by construction. However, the CWS will be enhanced as part of the Proposed Development as it falls under Work No. 1 and Work No. 6. Grassland enhancements, the inclusion of buffer strips, and the relaxation of grazing across the Site will also be applicable to Dean Moor CWS. The Landscape Strategy Plan (Figures 7.6.1 to 7.6.5) shows these enhancements with further details on management provided in the OLEMP.
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'There are also a number of water courses within the CWS and wider development site and we'd also like to see the implementation of best practice near watercourses during these phases to mitigate pollution by chemicals and sediments particularly from high rainfall on exposed soils'</i>	Construction and operation of the Proposed Development will comply with best practice and mitigation set out in the OCEMP (Appendix 5.1) and OLEMP.
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'Whilst we understand that the final layout of the development is still to be determined and that the area designated as CWS might not be used to site solar arrays we would prefer that the CWS was not utilised for this purpose. If parts of the CWS have to be used then we would ask that the areas utilised are restricted to those currently grazed as intensive pasture and that</i>	Part of the CWS being used for the Proposed Development is currently intensively grazed. As outlined in the Landscape Strategy Plan the area of the CWS under Work No. 1 will be enhanced through suitable grassland management to promote species diversity and

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		<i>any high value habits (e.g. purple moor grass & rush pasture) are significantly buffered from the remainder of the development.'</i>	sward heterogeneity. Grazing will be relaxed to promote biodiversity in the CWS, including under solar arrays.
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'As with the positioning of solar arrays we would also not like to see the removal of vegetation from high value habits to facilitate construction such as cabling, perimeter fencing, and the installation of access tracks. These too should be restricted to those areas currently grazed as intensive pasture.'</i>	Construction will comply with best practice and as set out within the OCEMP (Appendix 5.1). Where habitats are affected, impacts will be minimised, and appropriate mitigation implemented where necessary.
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'We would like to see a review of land management practices for the CWS including the existing grazing regime to deliver biodiversity benefits such as potentially through the restoration of species-rich grassland. Cumbria Wildlife Trust has many years of restoring and managing species-rich grasslands and if desirable we would be happy to input into the development of any restoration/grazing management plans for the CWS and wider development site.'</i>	Dean Moor CWS will be subject to a GMP to restore and enhance biodiversity. The OGMP is included in the OLEMP (Appendix 7.7). Suitable grassland management to promote species diversity and sward heterogeneity will enhance the CWS. The restoration approach will be discussed and agreed with CWT.
PEIR Chapter 8	Cumbria Wildlife Trust 15.5.24	<i>'In addition to the above we'd like to see the following measures put in place across development site:</i> <i>Retention of existing areas of woodland and scrub and creation of new woodland and scrub wherever possible;</i> <i>Enhancement to existing hedgerows and establishing new hedgerows;</i> <i>Planting (reeds/ enhanced tree and shrub planting) within the Thief Gill Gully;</i> <i>Avoiding sheep and solar arrays (and construction within the watercourses and gullies).</i>	Mitigation measures are set out within the OLEMP and shall include details on habitat protection, restoration and enhancement (including terrestrial, riparian and aquatic areas); grazing management; planting regimes, their management and monitoring; and maintained connectivity for species dispersal across the Site through sympathetic placement of mammal gaps around the Site's perimeter.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
		• <i>Appropriate grazing across site to increase species-richness of existing grassland.</i> • <i>Establishing and improving existing ponds.</i> • <i>Increasing connectivity of habitats across the development site and with those outside Dean Moor of to create wildlife corridors.'</i>	
PEIR	Cumbria Wildlife Trust 15.5.24	<i>'It is our understanding that peat soils are present within the development site. The extent and depth of these should be determined before development plans are finalised so they can remain consolidated and avoid their disturbance during the construction and decommissioning phases. Whilst these peatland soils no longer form part of functioning healthy peatland habitat their disturbance will increase their decomposition and result in increased soil loss due to increased exposure to air and run-off. Solar arrays, cabling, perimeter fencing, and the installation of access tracks should also avoid peat soils.'</i>	A Peat Survey Report is included in Appendix 10.3 [REF: 6.3].
PEIR; Chapter 8, Section 3.8.1	The Council 19.4.24	<i>'Paragraph 3.8.1 states that a buffer of 250m was chosen. Best practice guidelines state that a buffer of 500m should be used with 250m being acceptable for large linear schemes. Robust justification should be given as to why the smaller buffer zone was adopted.'</i>	Justification has been provided in this Chapter.
PEIR; Chapter 8, Section 4.2.28	The Council 19.4.24	<i>'Paragraph 4.2.28 - Adequate exclusion zones must be in place from the outset of design to ensure that direct impacts to notable habitats such as ancient woodland and hedgerows, and other habitats of ecological value such as plantation woodland, and ponds are avoided.'</i>	This is set out in the OCEMP (Appendix 5.1) and OLEMP (Appendix 7.7) for both construction and operation.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
PEIR; Chapter 8, Section 4.4.12	The Council 19.4.24	<i>'Natural England should be consulted on approach to bat activity surveys. Whilst the Site has low level of bat interest and the grassland habitat will be retained due to solar panels installation, it should be understood how bats use the Site currently, and therefore how enhancements can be designed to improve bat interest at the Site. Therefore, bat activity surveys should be undertaken throughout the Site according to BCT guidelines to establish how bats are using the Site. I note that bat activity surveys were undertaken in 2023 and written up in the bat report.'</i>	Bat activity surveys have been undertaken in line with guidance to understand assemblage and included in Appendix 8.3. Enhancements have been designed to support the local bat population and are included in the OLEMP.
PEIR; Chapter 8, Section 4.6.8	The Council 19.4.24	<i>'Paragraph 4.6.8 - surveys to be included should be for breeding birds, over wintering birds and autumn and spring passage surveys.'</i>	This is reported on in Appendices 8.5 and 8.6.
PEIR; Chapter 8, Section 4.8.4	The Council 19.4.24	<i>'Whilst reptile surveys may not be recommended, future design should incorporate hibernacula to improve the Site for reptiles and encourage them to the area.'</i>	It is proposed that tree cuttings from management are included as habitat piles across the Site. This is detailed in the OLEMP (Appendix 7.7).
PEIR; Chapter 8, Section 4.9.4	The Council 19.4.24	<i>'If development has not commenced within 24 months of the eDNA surveys being undertaken for GCN, then these surveys must be repeated.'</i>	Pre-construction surveys will be undertaken as per best practice, further information is available from the OCEMP (Appendix 5.1).
PEIR; Chapter 8, Appendix 8.2	The Council 19.4.24	<i>'If development has not commenced within 24 months of the NVC surveys being undertaken, then these surveys must be repeated.'</i>	NVC surveys will only be necessary should habitat conditions in the three areas subject to survey undergo observable change. The NVC Report is included in Appendix 8.2.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
PEIR; Chapter 8, Appendix 8.3	The Council 19.4.24	<i>'I'd expect to see walked transects for the activity surveys to understand how bats are using the Site, not just how many, but willing to be presented with robust justification as to why only static detectors were put out. If development has not commenced within 24 months of the bat surveys being undertaken, then these surveys must be repeated.'</i>	Justification for the approach taken during bat surveys has been included in this chapter and in Appendix 8.3. Pre-construction surveys will be undertaken as per best practice and where necessary as set out in the OCEMP.
PEIR; Chapter 8, Appendix 8.4	The Council 19.4.24	<i>'If development has not commenced within 24 months of the otter and water vole surveys being undertaken, then these surveys must be repeated.'</i>	Pre-construction surveys will be undertaken as per best practice and where necessary as set out in the OCEMP.
PEIR; Chapter 8, Appendix 8.5	The Council 19.4.24	<i>'Post-development enhancement should incorporate habitat enhancement for these 66 bird species that were recorded as part of the surveys, but most notably, for those BoCC red listed species.'</i>	Enhancements which benefit birds include hedgerow management; improved grassland management and the enhancement of Dean Moor CWS. Habitat enhancements are included in the OLEMP (Appendix 7.7).
PEIR; Chapter 8.5,	The Council 19.4.24	<i>'Regarding Likely Significant Effects – this section talks of embedded mitigation. Please note that embedded or best practice mitigation is not to be taken into account when conducting the screening stage of the HRA. Therefore, it is highly likely that the HRA will at least proceed to the Appropriate Assessment Stage, where the embedded mitigation can be discussed.'</i>	The sHRA is included in Appendix 8.7 of this chapter.
PEIR; Chapter 8, Section 8.5.15	The Council 19.4.24	<i>'Paragraph 8.5.15 – in this case siltation fencing must be considered further as in Section 8.6'</i>	Silt fencing will be provided where required as set out in the OCEMP (Appendix 5.1).
PEIR; Chapter 8,	The Council 19.4.24	<i>'Paragraph 8.5.19 – this contradicts Paragraph 5.1.3 in the non-technical summary which states that working hours in the week will be 7am to 7pm Monday to</i>	Information on working hours has been provided in the OCEMP.

Ref	Source and Date	Summary of Consultation Response	Response to Consultee
Section 8.5.19		<i>Friday. Please confirm that these timings therefore are during the summertime.'</i>	
PEIR; Chapter 8, Scoping Opinion	The Council 19.4.24	<i>'Section 3.4 for Biodiversity and ID 3.4.2 – this suggests that a HRA is not required. I would argue that a full HRA is undertaken for a development of this size before impacts to internationally designated sites can be scoped out.</i> <i>ID 3.4.6 on dormice and 3.4.7 on ancient woodland – I agree that more information is needed before likely significant effects to these receptors can be scoped out.'</i>	The sHRA is included in Appendix 8.7. Dormouse have been scoped out of this assessment and a rationale provided (Other Species in section 8.4).
PEIR; Chapter 8, Outline CEMP	The Council 19.4.24	<i>'Paragraph 5.4.5 – this should include measures to protect small mammals from construction activities.'</i>	An Ecological Clerk of Works ('ECoW') will be appointed during construction to advise on species protection. This requirement is set out in the OCEMP (Appendix 5.1).

Limitations and Assumptions

- 8.3.56 The desk study data which has been used to inform this assessment relied on data provided from CBDC in May 2023. It should be noted that records, while useful, do not provide a full picture of habitat and species presence. However, a suite of detailed ecological surveys has been undertaken which are considered to provide a robust baseline to inform the ES.
- 8.3.57 Wintering bird surveys and over-wintering hen harrier surveys were affected by a series of named storms during October / November 2023, such that they had to be rescheduled at short notice and timed to occur when inclement weather would not affect results. Although it was intended to keep to the survey schedule of a survey once per fortnight, this was not always possible. Nonetheless, in light of the number of surveys carried out for these groups this is considered as unlikely to have affected the results and therefore this assessment.
- 8.3.58 Limitations attributed to specific surveys are detailed within in the relevant reports appended to this chapter.
- 8.3.59 In the assessment of the Proposed Development's construction phase effects, an 18-month construction period has been assumed. Although this represents a 'worst case' scenario due to impacts associated with habitat loss, fragmentation and disturbance during sensitive stages of a species lifecycle (e.g. breeding birds) over a wide area, it is noted that it would also facilitate a more rapid transition to habitat creation, establishment of enhancements, and reduced grazing at the Site.
- 8.3.60 It is acknowledged that a longer construction period may limit the scale of immediate habitat loss, but impacts would be dependent on a number of factors, including the phasing of works, extent, start date, duration and habitat reinstatement.

8.4 Baseline Conditions

Baseline Results

Statutory Designated Sites

- 8.4.1 A total of five European sites were recorded within 10km of the Site boundary and which are presented in Table 8.4, along with their qualifying features. The closest being the River Derwent and Bassenthwaite Lake SAC 1.2km east. This SAC is hydrologically linked to the Site by the watercourses which flow northwards through the Site. The SAC supports key species including otter, Atlantic salmon, and lamprey species as well as marsh fritillary butterfly and floating water plantain.
- 8.4.2 There is a single nationally designated site, the River Derwent, and Tributaries SSSI. The SSSI, which underpins the SAC, is designated for its aquatic habitats and species. The locations of both the European and nationally designated sites are shown in Figure 8.1 as well as in the PEA provided in Appendix 8.1.

Figure 8.1: Statutory Designated Sites

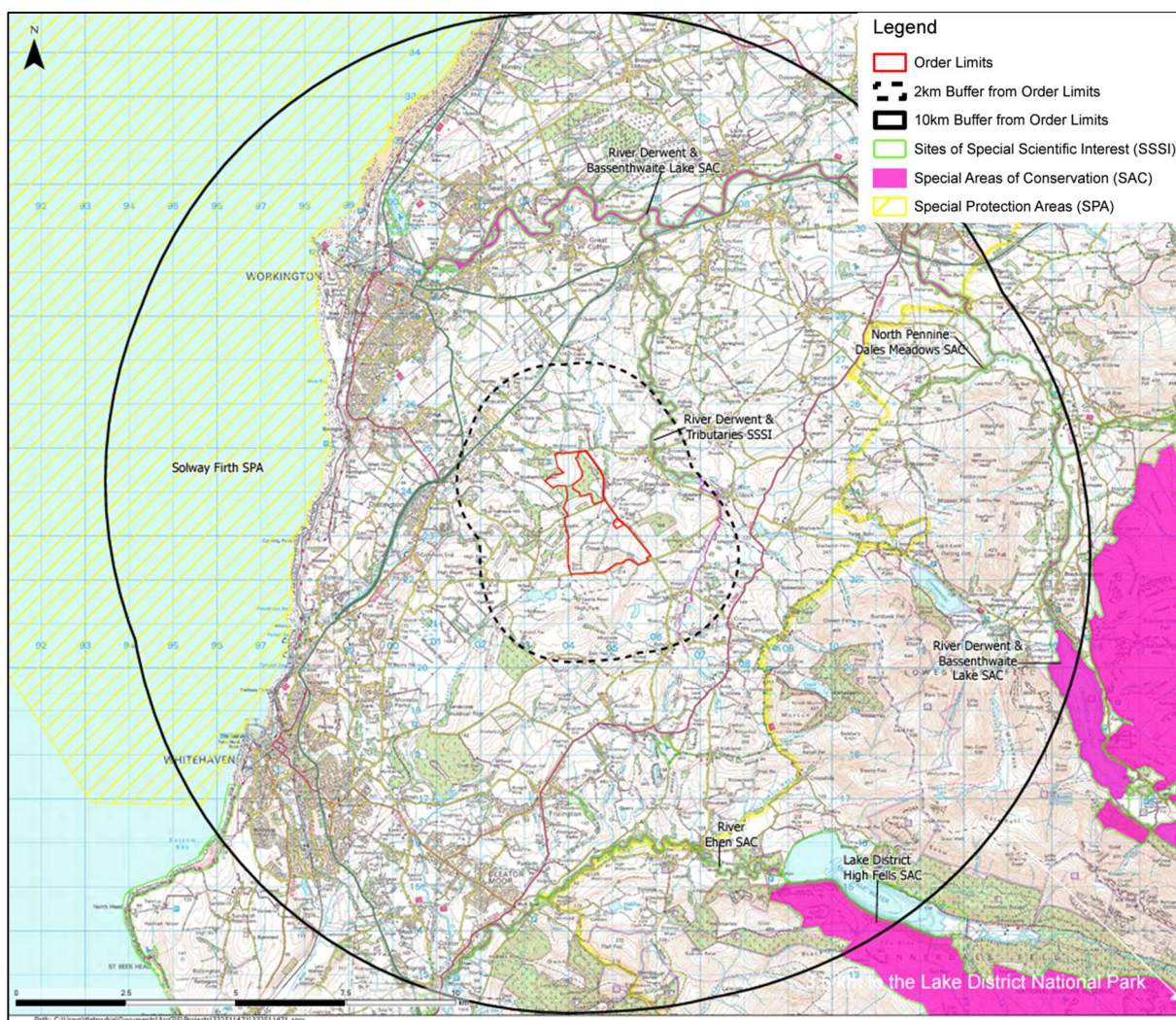


Table 8.4: European Designated Sites present within 10km of the Site

Site Name	Approximate Distance and Direction from the Site	Reason for Designation
River Derwent & Bassenthwaite Lake SAC	1.2km to the east (and hydrologically connected to the Site via watercourses)	Designated for aquatic habitats and species which the River Derwent and Bassenthwaite Lake support, including lamprey species, Atlantic salmon, otter, marsh fritillary butterfly, and floating water plantain.
Solway Firth SPA	5km to the west	Designated due to its importance during winter for non-breeding waterfowl and non-breeding gulls.
River Ehen SAC	6.1km to the south	Designated for the presence of freshwater pearl mussel and Atlantic salmon.

Site Name	Approximate Distance and Direction from the Site	Reason for Designation
Lake District High Fells SAC	8km to the southeast	Designated for a range of upland habitats including heathland, tarns (waterbodies), grassland, bogs, scree, woodland, and tall herb communities.
North Pennine and Dales Meadows SAC	8.9km to the east	Designated due to the presence of mountain hay meadows and <i>Molinia</i> meadows.

8.4.3 The Site falls within the Natural England Impact Risk Zone ('IRZ') for the designated sites listed in above. The IRZ indicates that planning applications for solar schemes with a footprint greater than 0.5ha could potentially have an adverse impact on the designated sites.

8.4.4 The IRZ guidance⁴² states that LPAs have a duty to consult Natural England before granting planning permission on any development that is in or likely to affect a SSSI. The SSSI IRZs can be used by LPAs to consider whether a development is likely to affect a SSSI and whether they will need to consult Natural England on the nature of any potential SSSI impacts and how they might be avoided or mitigated.

Non-Statutory Designated Sites

8.4.5 Dean Moor CWS is partially within the southern part of the Site (within Area C) and is designated for its acidic moorland habitats with purple moorgrass, sharp flowered rush, Sphagnum spp, and cotton grass. Bilberry and cross-leaved heath are occasional while the Site is also a breeding area for snipe and curlew.

8.4.6 There are a further 13 CWS and three Special Roadside Verges ('SRV') within 2km of the Site, with Gilgarran Plantation, Wythemoor, and SRV MP K3 being within the Site on Branthwaite Edge Road. The locations of the non-statutory sites are shown in Figure 8.25 as well as in the PEA report provided in Appendix 8.1.

⁴² Natural England (2021) Natural England's Impact Risk Zones for Sites of Scientific Interest. Available at: https://magic.defra.gov.uk/metadata_for_magic/sssi%20irz%20user%20guidance%20magic.pdf Accessed January 2024



8.4.8 The Site supports three notable habitats: lowland dry acid grassland on the slopes of the gorge containing Thief Gill, ponds, and hedgerows. Hedgerows were not classed as important based on the Hedgerow Regulations 1997. There is no ancient woodland within the Site, although seven parcels of ancient woodland lie within 2km of the Site, the closest being replanted ancient woodland adjacent to the western boundary of Area C.

- 8.4.9 Other habitats within the Site include modified grassland which is extensive in Areas A, B, and C of the Site and used for sheep grazing, with some areas being heavily poached. Other neutral grassland surrounds one of the ponds while damp grassland was present in the southwest of Area C.
- 8.4.10 Habitat adjacent to Area A is dominated by broadleaved woodland plantation, some of which exists within the edge of the Site. However, a small number of conifers are present. A small mixed plantation is present in the east of the Site, beside which is evidence of recent felling. Two Sitka-dominated plantations are present in Area C, with two younger plantation blocks present on the southern slope.
- 8.4.11 Other habitats present within the Site include a line of trees which has a diverse understorey associated with a bank. Several areas of dense scrub are present, including on some of the damper ground. Two flushes are present in the gorge associated with Thief Gill in Area C, while swamp habitat is present at the margins of two ponds (Ponds 1 and 2).
- 8.4.12 Of the four ponds, one was partly inaccessible to surveyors as it is surrounded by 20m of swamp dominated by floating bulrush (Pond 1). Two (Ponds 3 and 4) are surrounded by marshy grassland vegetation. Pond 3 also has an island in the middle of the pond with goat willow scrub. The ponds are shown in Figures 3a and 3b of Appendix 8.1.
- 8.4.13 Area C to the south of the Site contains a number of watercourses. The main watercourse, Thief Gill, flows northwards from the southern boundary through a steep-sided gorge before discharging off-Site via a culvert under the Branthwaite Edge Road on the eastern boundary. The watercourse is joined by two smaller watercourses.
- 8.4.14 A smaller watercourse flows down the western boundary of Area C where it is joined by another watercourse flowing west from one of the coniferous plantation woodland blocks. The watercourses appear (visually) to have poor water quality. The bed material is primarily cobbles, gravel, and silt, with the cobbles being well-impacted into the substrate.

- 8.4.15 At the time of the PEA Survey (Appendix 8.1), two buildings were present within Area C. These buildings were large agricultural barns appearing to be steel framed, comprised of breeze block and wood construction and have pitched roofs of corrugated asbestos concrete. These two buildings have since been removed from the Site boundary (Figure 1.1). A third building is located in Area D and is associated with the Wind Farm. This is a single-storey building of brick-and-mortar construction with a simple, slate-covered, pitched roof.

National Vegetation Classification

- 8.4.16 A NVC survey was carried out at three locations within Area C on 9 August 2023. The locations of the three survey areas and species compositions are presented in Appendix 8.2.
- 8.4.17 Survey Area 1 was found to be a *Juncus*-dominated marshy grassland with patches of short mossy ground and frequent *Carex spp.* The vegetation here is characteristic of the M23 *Juncus effusus/acutiflorus* – *Galium palustre* rush pasture community, although it does lack a prevalence of tall herbs.
- 8.4.18 Survey Area 2 which lies astride the Thief Gill, is a flush habitat characterised by *Juncus spp.* and *Cirsium palustre* and tall vegetation. The community appears to fall best into the M23 *Juncus effusus/acutiflorus* – *Galium palustre* rush pasture community. However, the area is more species rich than Survey Area 1, although the new species are present at low frequency.
- 8.4.19 Survey Area 3 comprises modified grassland / improved wet pasture that is cut / grazed very short and experiences heavy poaching by cattle. The community has clear characteristics of mesotrophic grassland with both MG10 *Holcus lanatus* – *Juncus effusus* rush pasture and MG6a *Lolium perenne-Cynosurus cristatus* community present.

Non-native Invasive Plant Species

- 8.4.20 No INNS of plants were identified within the Site. However, a small stand of rhododendron was identified in habitat to the west of Branthwaite Edge Road. This habitat will not be impacted by the Proposed Development and no further assessment of INNS is included.

Priority Habitats

- 8.4.21 The M23 communities (in Survey areas 1 and 2) fall within the definition of purple moor grass and rush pasture ('PMRP')⁴³. PMRP is a very variable priority habitat (NERC Act Section 41) encompassing a wide range of plant communities, with the broader definition of PMRP including NVC communities M22–M26, and sometimes also M27.

Protected Species

Great Crested Newts

- 8.4.22 The desk study identified a single record of GCN (*Triturus cristatus*) from a pond in Lillyhall 1.15km northwest of the Site, and over 1.2km from Pond 1. No records of previous EPS licences or licence returns, or positive GCN pond survey results have been identified on the MAGIC website.
- 8.4.23 Based on HSI assessment scores obtained, Ponds 1 and 2 were both considered good for GCN, Pond 3 was excellent and Pond 4 average. Further water sampling was carried out at Ponds 2, 3, and 4 on 26 and 28 April 2023 as part of eDNA assessments. Water sampling was carried out at Pond 1 on 24 May 2023, once safe access was obtained.
- 8.4.24 A survey using egg searching, torch surveys and bottle trapping was carried out on 26 April 2023 on only Ponds 2 and 3. Ponds 1 and 4 were only subject to eDNA assessments.
- 8.4.25 The eDNA results for all ponds were negative, while the single visit using traditional methods employed at Ponds 2 and 3 identified no GCN. As

⁴³ UK Biodiversity Action Plan Priority Habitat Descriptions (2011) BRIG (2011). JNCC

such GCN are not considered further in this assessment. Details on the GCN surveys are provided in Appendix 8.1.

Bats

- 8.4.26 The data search returned 17 individual records: 'bat species', whiskered / Brandt's bat *Myotis (mystacinus / brandtii)*, Daubenton's bat (*Myotis daubentonii*), noctule bat (*Nyctalus noctule*), pipistrelle bat species, common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), and brown long-eared bat (*Plecotus auratus*). Of the records supplied, approximately half appear to be records of roosting bats, with the largest roost being a count of 130 bats of an undeclared species near Gilgarran from 1991. The species of this roost was not disclosed. The latest likely roost records are for a 50-count event in 2017 near Asby, to the south (pipistrelle species).
- 8.4.27 At the time of the PEA, of the three buildings identified on-site, the two agricultural barns and that associated with the Wind Farm, none supported features deemed suitable to support bats and were all considered as being of negligible suitability for roosting. No further surveys of these buildings were considered necessary.
- 8.4.28 The woodland areas within the survey were predominantly young or early mature. None of the trees had trunks of sufficient diameter or supporting features, such as rot holes or cracks, which could support roosting bats.
- 8.4.29 Mature trees were recorded along the Gilgarran Road that divides the northern (Areas A and B) and southern (Area C) areas of the Site, some of which supported features that could be used by roosting bats. Mature woodland outside the western boundary of the Site contains trees with features that could be used by roosting bats.
- 8.4.30 The majority of habitat within the Site is dominated by intensively grazed sheep pasture which will offer lower value foraging habitat than adjacent hedgerows, ponds, or woodland.

- 8.4.31 Surveys in 2012 to inform the planning application for the Wind Farm⁴⁴ used static bat detectors at three locations and these recorded low levels of bat activity at a maximum of 11.72 bat passes per hour at one of the detectors. Common pipistrelle was the most commonly recorded species and other species included pipistrelle species, soprano pipistrelle, *Myotis* sp., Daubenton's bat, Brandt's bat (*Myotis brandtii*), whiskered / Brandt's bat and noctule bat.
- 8.4.32 Surveys carried out between May and September 2023 using 6 static bat detectors distributed across the Site, confirmed the presence of six bat species. Soprano pipistrelle were the most frequent species recorded, followed by common pipistrelle, (*Myotis* sp.), Noctule, brown long-eared and Nathusius pipistrelle (*Pipistrellus nathusii*).
- 8.4.33 Bat activity was highest close to trees, particularly those which border Gilgarran Road between Areas B and C. August 2023 represented the month with highest bat activity, likely a result of the increase in bat numbers following the breeding season.
- 8.4.34 Given the upland and exposed nature of the Site, the limited number of suitable roost sites (buildings and trees), and that walked transect surveys would only record a snapshot of bat activity which could be impacted by climatic conditions, it was considered that more robust data relating to the bat assemblage would be acquired from static detectors placed in suitable habitat across the Site and left *in situ* across several months. Details of the bat surveys are provided in Appendix 8.3.

Otter and Water Vole

- 8.4.35 A total of 21 records of otter (*Lutra lutra*) were returned from the desk study, the most recent of which is from 2008. Two records are close to the Site; one at the southern end of Area C, close to the southern extent of the watercourse (Thief Gill) and the other on the eastern boundary where the watercourse leaves the Site.

⁴⁴ Potato Pot Windfarm Environmental Statement (2012) Airvolution Energy

- 8.4.36 There were two records of water vole (*Arvicola amphibius*) from the desk study, both from a similar location approximately 1.5km southwest of the Site.
- 8.4.37 Surveys carried out on 6 July and 11 October 2023 confirmed the presence of otter on watercourses with the Site, although there is no evidence of otter using ponds within the Site. Otter spraints (droppings) were recorded on two watercourses, a potential resting site (couch) on one watercourse, and otter footage recorded on a single trail camera. No holt was identified during either survey, and it is considered that otters only use the Site for foraging and commuting and occasionally lie up during these activities.
- 8.4.38 No signs of water vole were recorded during either survey, so they are not considered further in this assessment. Otter and water vole survey results are presented in Appendix 8.4.

Breeding Birds

- 8.4.39 Records of rook (*Corvus frugilegus*), wheatear (*Oenanthe Oenanthe*) and 'sensitive species' were returned for the Site itself from the desk study. There are numerous records of birds in the area, including many for species potentially sensitive to solar farm development, such as mute swan (*Cygnus olor*), lapwing (*Vanellus vanellus*), curlew (*Numenius Arquata*), skylark (*Alauda arvensis*), and dipper (*Cinclus cinclus*).
- 8.4.40 Surveys carried out in 2023 recorded 66 species within the Site, of which 25 were considered to be breeding / probably breeding. This included three species listed on the red list of Birds of Conservation Concern ('BoCC')⁴⁵ (grasshopper warbler (*Locustella naevia*), linnet (*Carduelis cannabina*) and skylark) and eleven amber listed species (dunnock (*Prunella modularis*), moorhen (*Gallinula chloropus*), reed bunting (*Emberiza schoeniclus*), sedge warbler (*Acrocephalus schoenobaenus*), stock dove (*Columba oenas*), song thrush (*Turdus philomelos*),

⁴⁵ Stanbury, A., Eaton, M. Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch., Noble, D. and Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114. 723-747(BoCC)

whitethroat (*Sylvia communis*), wheatear, willow warbler (*Phylloscopus trochilus*), wood pigeon (*Columba palumbus*) and wren (*Troglodytes troglodytes*)).

- 8.4.41 The remaining 11 species were listed on the green list and included blackbird (*Turdus merula*), blackcap (*Sylvia atricapilla*), blue tit (*Cyanistes caeruleus*), carrion crow (*Corvus corone*), chaffinch (*Fringilla coelebs*), chiffchaff (*Phylloscopus collybita*), great spotted woodpecker (*Dendrocopos major*), great tit (*Parus major*), long-tailed tit (*Aegithalos caudatus*), magpie (*Pica pica*) and robin (*Erithacus rubecula*).
- 8.4.42 The majority of habitats were associated with woodland, hedgerow and scrub, although species using grassland habitats were skylark and wheatear. Details of the breeding bird surveys are provided in Appendix 8.5.

Wintering (inc. passage) Birds

- 8.4.43 The desk study provided numerous records of birds in the area, including those dependent on the Solway Firth SPA, which includes many species potentially sensitive to the Proposed Development, such as greylag goose (*Anser anser*), pink-footed goose (*Anser brachyrhynchus*), mute swan (*Cygnus olor*), oystercatcher (*Haematopus ostralegus*), lapwing (*Vanellus vanellus*), herring gull (*Larus argentatus*), and curlew (*Numenius Arquata*).
- 8.4.44 Very few birds were recorded within the Site during the wintering bird characterisation survey undertaken in February and March 2023. Observations of note include a group of lapwings on the periphery, an overflying buzzard (*Buteo buteo*), raven (*Corvus corax*), pink-footed geese (*Anser brachyrhynchus*), and kestrel (*Falco tinnunculus*). Some small pockets of potential ornithological interest are present associated with hedgerow or woodland edges.
- 8.4.45 The wintering bird survey carried out between September 2023 and March 2024, which included both the passage migratory and core season, identified a total of 67 species within and immediately adjacent to the Site. This included three Schedule 1 species: fieldfare (*Turdus pilaris*),

peregrine (*Falco peregrinus*) and redwing (*Turdus iliacus*), and eleven Section 41 species (NERC Act, 2006): bullfinch (*Pyrrhula pyrrhula*), dunnoek (*Prunella modularis*), herring gull (*Larus argentatus*), house sparrow (*Passer domesticus*), lesser redpoll (*Carduelis cabaret*), linnet (*Carduelis cannabina*), lapwing (*Vanellus vanellus*), reed bunting (*Emberiza schoeniclus*), skylark (*Alauda arvensis*), song thrush (*Turdus philomelos*), and starling (*Sturnus vulgaris*).

- 8.4.46 Of the species recorded, herring gull, black-headed gull, common gull, lapwing and teal are a qualifying species of the Solway Firth SPA. A further assessment of the presence of these species is provided in Appendix 8.7. Details of the breeding bird surveys are provided in Appendix 8.6.

Hen Harrier

- 8.4.47 Consultation with CBC was carried out with regards to this species. The survey methodology was discussed and agreed with Natural England. Hen harrier surveys were carried out between November 2023 and March 2024 with two surveys carried out at each of two vantage points per month. Surveys took place at dusk and dawn to identify foraging and commuting birds and roost sites. The Wintering Bird and Hen Harrier Survey Report is provided at Appendix 8.6.
- 8.4.48 The surveys recorded no hen harriers, and this species has been scoped out of this assessment.
- 8.4.49 Five species of raptor were recorded and included barn owl (*Tyto alba*), buzzard (*Buteo buteo*), kestrel (*Falco tinnunculus*), merlin (*Falco columbarius*) and sparrowhawk (*Accipiter nisus*).

Other Species

- 8.4.50 The data search carried out by CBDC returned no records for badgers within the Site although five records were returned within the 2km buffer. No evidence of badger such as setts, hairs or feeding signs were identified

during the PEA (Appendix 8.1) carried out in 2023 and as such they have been scoped out of this assessment.

- 8.4.51 The desk study identified eight records of common lizard (*Zootoca vivipara*) (closest: 700m west and 700m south of the Site); and seven of adder (*Vipera berus*) (one location, 1.7km southwest of the Site).

- 8.4.52 The habitat is generally unsuitable for reptiles although they may exist in small pockets of suitable habitat, for example around ponds, close to the wind turbines, in marshy areas and in marginal areas of woodland. Given the general unsuitability of the Site these species have been scoped out of this assessment.

- 8.4.53 Much of the Site is dominated by intensively grazed modified grassland with fields separated by fences or by hedgerows dominated by hawthorn and blackthorn. While hedgerows may have some suitability for dormouse, the Site is on the edge of the natural range for this species and the intervening habitat between woodlands is unsuitable. This suggests that the Site is unlikely to support this species, and they are not considered in this assessment.

- 8.4.54 The intensively grazed habitat across the Site which offers little cover is generally unsuitable for red squirrel, brown hare, hedgehog, water shrew or polecat. Records of these species from CBDC are generally limited, with one record for red squirrel and brown hare within the Site while two records each for water shrew and polecat but no closer than 1km of the Site. Given the general unsuitable habitat for this species in the majority of the Site, they have been scoped out of this assessment.

Nature Conservation Importance

- 8.4.55 The nature conservation importance of biodiversity features, in line with CIEEM's geographic framework⁴⁶, is set out in Table 8.5 below.

⁴⁶ CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. V1.2 (Updated April 2022) Chartered Institute of Ecology and Environmental Management.

Table 8.5: Nature conservation importance of ecological receptors identified within the Zone of Influence

Receptor	Nature Conservation Importance	Rationale
River Derwent and Bassenthwaite Lake SAC River Ehen SAC Solway Firth SPA Lake District High Fells SAC North Pennine and Dales Meadows SAC	European	Legal protection at an international level.
River Derwent and Tributaries SSSI	National	Legal protection at a national level
Dean Moor CWS and other non-statutory designated sites	County	Non-statutory sites are designated through planning policy at the county or local authority level.
Hedgerows	Local	Hedgerows are a Habitats of Principal Importance ('HPI') under the NERC Act. There are multiple hedgerows across the Site comprising a few dominant species. These were assessed against the Hedgerow Regulations, and none were identified as being 'important'.
Ancient woodland	County	Ancient woodland defined as irreplaceable habitat with many woodlands also being considered as Priority Habitat.
Lowland dry acid grassland (supporting purple moor grass plant community)	County	Discrete areas of habitat occur. Purple Moor Grass and Rush Pasture an HPI under NERC Act Section 41. This is a qualifying habitat of Dean Moor CWS.
Modified grassland	Site	Common and widespread in the local area and heavily grazed.
Other neutral grassland	Site	Present across the Site, albeit in discrete areas, particularly in wetter areas close to ponds and streams where it covers extensive areas.
Woodland, broadleaved and mixed	Site	Plantation origin and containing conifers.
Other habitats (coniferous woodland, line of trees, mixed scrub, flush and swamp)	Site	Areas of habitat are widespread across the Site albeit limited in size and isolated.

Receptor	Nature Conservation Importance	Rationale
Ponds and watercourses	Local	Ponds are HPIs under NERC Act and likely to support a number of species. Mesotrophic standing waters are also in the Cumbria BAP ⁴⁷ . Thief Gill and Lostrigg Beck are designated a European eel migratory route and brown trout have been recorded on the Site.
Bats	Site	Habitat is generally of low value to bats with suitable foraging habitats confined to hedgerows and woodland. Species composition is limited as expected in upland habitat. No trees or buildings are present on-Site which were considered suitable for roosting. In the Site, only trees along the Gilgarran Road have potential to support bats. Desk study results, surveys carried out as part of the Wind Farm development and current surveys indicate an assemblage limited to a few common species.
Otter	Local	European Protected Species and known to use watercourses on-Site for commuting and foraging. No holts identified on-Site.
Breeding Birds	Local	Habitat is farmland intensively grazed. Fields are separated by hedgerows and there are some areas of woodland within and adjacent to the Site. The Site is used by woodland and hedgerow nesting species while grassland is used by those which prefer open habitats.
Passage and Wintering Birds	Local	Grasslands used by overwintering species, including black-headed gull, herring gull, lapwing, teal which are qualifying features of Solway Firth SPA which is 5km to the west.
Hen Harrier	Site	Schedule 1 bird known to use surrounding habitats for foraging and roosting. Surveys did not identify individuals using the Site.
Other species (hedgehog, brown hare, dormice, red squirrel, reptiles, water shrew, polecat, amphibians)	Site	Heavily grazed habitats across the Site and a lack of cover suggest most species will either be absent, exist at very low populations or be confined to small parts of the Site. Records obtained from desk study for these species are very limited or absent.
Terrestrial and aquatic invertebrates	Site	No records were returned for terrestrial invertebrates. Habitat diversity is limited on-Site and generally comprises heavily grazed modified grassland and woodland. More interesting assemblages may be connected to ponds, watercourses, areas of swamp, and flush and neutral grassland. However, these are limited in

⁴⁷ Cumbria Biodiversity Partnership (2004). Biodiversity in Community Strategies

Receptor	Nature Conservation Importance	Rationale
		size and isolated within the wider habitat. The Site is located at the upper catchment of the River Derwent SAC so invertebrate populations not maintained by those further upstream.
Notable Plants	N/A	No notable plants recorded across the Site as the Site intensively managed.
Invasive non-native species	N/A	No INNS identified on-Site during surveys.

8.4.56 Based on the important ecological features identified on-Site, the following receptors listed below are taken forward for further assessment. Although it is noted that bats are considered as having a Site Level of Nature Conservation Importance, due to the lack of buildings and trees in which to roost, they have been included in the assessment based on their status as EPS. The Site also supports woodland and hedgerow which may be of value to bats commuting and foraging in the wider landscape.

- Statutory Designated Areas;
- Non-Statutory Designated Areas;
- Habitats;
- Bats;
- Otters;
- Breeding Birds; and
- Wintering Birds.

Future Baseline Conditions

8.4.57 Should the Proposed Development not go ahead, the Site will likely maintain the habitats currently identified on-Site in line with its farming use. Land to the north will remain dominated by modified grassland, while large broadleaved plantations and some smaller mixed plantations outside the Site are likely to be maintained. Land will also be similar in the south with modified grassland being the most dominant habitat and again with broadleaved and mixed woodland plantations being retained. It is possible that some small areas of commercial woodland would be subject to ongoing management to include harvesting.

8.4.58 Areas of other neutral grassland and mixed scrub will remain, as will areas of swamp and flush recorded around some of the ponds and along the banks of one of the watercourses. All ponds will remain, although Pond 1, which is heavily fringed by reeds, may be in the process of succession if weed growth is not managed.

8.4.59 Hedgerows will remain while fence lines, which form boundaries between areas of woodland and access roads, may be maintained.

8.4.60 The decommissioning of the Wind Farm, unless replaced or refitted, which will occur by 2043 and within the operational phase of the Proposed Development will likely lead to a change in habitat structure within Area D of the Site.

8.4.61 Although structures will be removed to below ground level and hard standings re-seeded or re-turfed, there are no details in the ES Ecology and Ornithology chapter submitted in support of the planning application for the Wind Farm in respect of re-planting woodland which was removed to enable its construction, as this has been previously compensated for. Therefore, it is likely that the footprint of the Wind Farm would revert to scrub habitats with some natural re-seeding of woodland with former turbine locations within grassland returning to agricultural use. The access track to the Wind Farm will remain in place for farm use. The access track to the Wind Farm will remain in place for farm use.

8.5 Likely Significant Effects

8.5.1 The likely significant effects identified in this section have been assessed assuming the implementation of the embedded mitigation set out below. This mitigation has been designed following the completion of protected species surveys and a review of the consultation responses received following submission of the EIA Scoping Report (Appendix 2.1) and statutory consultation.

Embedded Mitigation

8.5.2 A hierarchical approach to mitigation and the adoption of the mitigation hierarchy has been adopted through the design process which seeks to avoid adverse impacts in the first instance through an iterative approach to design, e.g., informing layout and access routes to avoid sensitive receptors where possible. In areas where avoidance is not possible, measures have been adopted to prevent or reduce potentially significant negative effects. Measures to compensate negative effects are also included, e.g., habitat creation and enhancement to offset impacts associated with habitat loss and fragmentation where these cannot be avoided.

8.5.3 The approach to embedded mitigation is provided in Chapter 3 – Site and Proposed Development while a summary of mitigation measures embedded within the Proposed Development is provided below:

- Impacts to Dean Moor CWS during construction and decommissioning will be minimised by limiting the extent of solar panels within the CWS;
- The Landscape Strategy Plan (Figures 7.6.1-7.6.5), as well as Work No. 6 – Green Infrastructure allows all sensitive habitats to be retained such as ponds, watercourses, woodland, hedgerows and small areas of scrub, swamp, and mire. Removal of woodland, trees, hedges will be avoided, other than limited clearance to enable access and for construction compounds, where required. Buffers will be included between sensitive features (e.g. hedgerows and watercourses) and the Proposed Development;
- The Proposed Development will enhance all retained habitats, including hedgerows, watercourses and ponds with additional planting and/or improved management. Additional woodland creation, standard tree planting and the creation of species rich buffer strips within the grassland areas will be undertaken. This is presented in the Landscape Strategy Plan (Figure 7.6.1-7.6.5).
- Generating station infrastructure will be sited in heavily grazed modified grassland which is not an important ecological feature;
- To avoid direct impacts, the design will incorporate appropriate buffers between infrastructure and sensitive habitats, such as watercourses, hedgerows and woodland, and areas of peat. Buffer strips of existing poor value habitat incorporated within the layout will be under-sown with a species rich grass mix;

- No permanent lighting will be installed on the Site. Where lighting is needed, for example above doors of ancillary buildings, it will be shielded, point downwards and be switch or motion activated; and
- Incorporation of gaps around perimeter fencing to facilitate dispersal of some small terrestrial species (not including deer) across the Site.

Potential Effects

8.5.4 Having regard to the characteristics of the Site and the surrounding area, and accounting for the mitigation embedded within the Proposed Development, the construction, operation, and decommissioning of the Proposed Development has the potential to result in the following likely significant effects:

- Habitat loss, disturbance or fragmentation (during construction, operation, and decommissioning);
- Disturbance, displacement, or mortality of wildlife (during construction and decommissioning);
- Disturbance, damage or loss of protected species breeding sites, hibernation-sites or resting places (during construction and decommissioning);
- Noise and/or visual disturbance to species using the Site caused by plant and machinery during construction and decommissioning;
- Impacts to designated sites or habitats through generation of dust or other pollutants from plant and machinery during construction and decommissioning; and
- Changes to habitats through alteration of surface water drainage (during construction and decommissioning).

8.5.5 It is noted that a number of impacts have been scoped out as they are considered unlikely to result in significant effects. A brief list of these impacts is provided below with full reasoning provided in the EIA Scoping Report (Appendix 2.1) and agreement from the Planning Inspectorate is within the EIA Scoping Opinion (Appendix 2.2).

- Traffic access as part of Site maintenance during the operational phase of the Proposed Development;
- Operational noise, visual and vibrational disturbance during the operational phase;
- Pollution to designated sites or habitats resulting from on-Site maintenance activities; and
- A reduction in air quality during construction, operation, and decommissioning.

Construction Phase

- 8.5.6 The assessment of impacts on ecological receptors are based on the information provided as part of Chapter 5 - Construction and Decommissioning Methodology and Phasing. The assessment takes account of the Parameter Plan (Figure 3.4) [REF: 6.2], which is based on the Work No. being secured through the DCO.

Statutory Designated Areas

- 8.5.7 Direct impacts associated with the construction phase are unlikely given the distance and intervening habitats. However, indirect impacts may occur through pollutants and silts entering the adjoining watercourses during construction and flowing downstream into the River Derwent and Bassenthwaite Lake SAC and River Derwent and Tributaries SSSI.
- 8.5.8 Wintering bird surveys have identified that the Site is used by several qualifying species of the Solway Firth SPA, most notably by foraging and loafing herring gull, throughout winter. However, this is a common species which is likely to utilise similar habitats in the surrounding area, as well as other habitats within the intervening 6km which lie between the SPA and Site. Impacts to SPA qualifying species are provided at Appendix 8.7.
- 8.5.9 The North Pennine Dales Meadows SAC, Lake District High Fells SAC and the River Ehen SAC are all located over 6km from the Proposed Development with no direct downstream hydrological pathway and as such direct impacts are considered unlikely during construction. Indirect impacts are also unlikely given the distance between the Proposed Development and the designated areas, the intervening habitats and the limited duration of construction works.
- 8.5.10 Construction therefore has the potential to have short-term, temporary, **negative effects** on the River Derwent SAC and SSSI, which are considered to be **not significant**. Construction will have **no significant effects** on the Solway Firth SPA.

Non-Statutory Designated Areas

- 8.5.11 Dean Moor CWS is partially located within the Site and is designated for acidic moorland habitats, in particular purple moor-grass communities. The solar development area shown on Figure 3.4 of the Proposed Development is partially located within the Dean Moor CWS.
- 8.5.12 The area of CWS within the Site and identified in Work Nos. 1 and 3 **[REF: 2.3]**, is currently dominated by intensively grazed modified grassland, and both mixed and coniferous woodland. No qualifying habitat of PMRP is present within Work No. 1.
- 8.5.13 The SRV MP K3 lies within the Order Limits but only within Highways Estate along the eastern boundary of Branthwaite Edge Road. This is adjacent to a potential access identified in Work No. 5 **[REF: 2.3]**. Access to the Site will be controlled by an OCTMP (Appendix 5.2) **[REF: 6.3]** and construction traffic will have sufficient space to enter the Site without having to mount the verge and damage habitats which for the SRV.
- 8.5.14 Construction will have short-term, temporary, **negative effects** on a small part of Dean Moor CWS which is of County level importance, which would be considered **significant** at the **Local level**. There will be **no effects** on the SRV.
- 8.5.15 Gilgarran Plantation CWS and Wythemoor CWS will not be affected directly by construction. All other non-statutory sites are sufficiently far from the Site that they will not be affected by construction.

Habitats

- 8.5.16 The design of the Proposed Development is focussed on land of the lowest ecological value and seeks to retain all boundary features, woodlands, ponds, and areas of higher botanical value. This includes important features such as hedgerows and watercourses located throughout Work No. 6 and identified on the Landscape Strategy Plan (Figure 7.6.1-7.6.5). Notably habitats comprising PMRP communities within Dean Moor CWS (NVC Survey Areas 1 and 3) are for the most part

outside Work No. 1. Nonetheless, there is the potential for some localised removal of vegetation to facilitate construction such as cabling, perimeter fencing, and the installation of access tracks as outlined in Work Nos. 3 and 4 [REF: 2.3] and detailed in Figure 3.4: Parameter Plan.

- 8.5.17 Ancient woodland is not present within the Site, with the closest being the replanted ancient woodland adjacent to the western part of the Area C boundary. This habitat will not be impacted during construction.

- 8.5.18 During construction, some pastoral grassland habitat will be lost, although this will be temporary and reversible, especially as solar arrays will be mounted off the ground on metal frames. However, rutting and damage to surface soil layers may occur such that reinstatement will need to be facilitated by over-sowing or slot seeding. Works which disturb the soil layer, thereafter, followed by reduced grazing pressure, may convey some benefits to soil conditions by reducing compaction and improving surface drainage.

- 8.5.19 Construction will have to take account of ground conditions, in particular the presence of discrete areas of peat to the northwest of Area C which may become unconsolidated if excavated. Details of the ground conditions on the Site are included in Chapter 10 – Ground Conditions [REF: 6.1]. An Agricultural Land Classification ('ALC') Report is included at Appendix 2.8 [REF: 6.3], and an Outline Soil Management Plan ('OSMP') is included at Appendix 5.3 [REF: 6.3].

- 8.5.20 Sedimentation and pollution of watercourses may occur during construction as buffer strips are unlikely to be fully functional and retain surface water flows within the first season. However, this impact is likely to be temporary until surface vegetation develops. Indirect impacts to habitats could occur during construction through dust deposition as well as run-off entering watercourses during heavy precipitation on exposed soil layers.

- 8.5.21 It is considered that there will be short-term, temporary, **negative effects** on habitats at **Site level**, which is **not considered significant**.

Species

- 8.5.22 Direct impacts to species, such as mortality and disturbance, could occur during the construction phase should habitats be removed, or disturbing activities be required. Indirect impacts will occur during the construction phases through the loss and fragmentation of habitat. Impacts, both positive and negative, on species identified on-Site during construction are summarised in below. Note that GCN, dormouse, and water vole are not included in the assessment.

Bats

- 8.5.23 There are no trees or buildings on-Site which support bat roosts (maternity, day, or hibernation) that will be felled or demolished. Therefore, there will be no impact to any roosting site.
- 8.5.24 As set out in Chapter 5 – Construction and Decommissioning Methodology and Phasing, construction activities will occur during daylight hours such that there will be no impacts to foraging bats from the use of lighting in hours of darkness. In the unlikely event that works be required to be carried out at night, which may also be seasonally dependent, then they would be temporary, and care would be taken to ensure sensitive features (e.g., hedgerows) are not illuminated by the use of directional lighting. A sensitive lighting strategy will be implemented in accordance with the OCEMP (Appendix 5.1).
- 8.5.25 As indicated in Work No. 6 and in the Landscape Strategy Plan provided in Figure 7.6.1-7.6.5 in Chapter 7 – Landscape and Visual, trees, hedgerows, and woodland habitats are being retained and enhanced across the Site, with new planting included to improve hedgerow condition and species diversity. Habitat buffers are included at hedgerow bases and along riparian corridors to improve green networks and support foraging and commuting bats.
- 8.5.26 Based on Appendix 8.3, it is considered that there will be only short-term, temporary, **negative effects** on bats, but they will **not be significant** during the construction phase of the Proposed Development.

Otter

- 8.5.27 Construction activities close to watercourses, although outside the buffer zone secured within Work No. 6, may reduce the availability of cover for otters temporarily during construction. Disturbance caused by generating station construction traffic and activities may disturb otters as they commute or forage along watercourses in the Site. Although no solar PV infrastructure will be located within 8m of watercourses, as shown in Work Nos. 1 and 6, pollution has the potential to impact on food resources and discourage otters from using the Site.
- 8.5.28 There will be short-term, temporary, **negative effects** on otters of **Local importance** which would be **significant** at the **Site level** only.

Breeding Birds

- 8.5.29 The loss of grassland habitats and sections of hedgerow to facilitate access would remove habitat of value to breeding birds which were recorded during surveys presented in Appendix 8.5. However, the Proposed Development is sited on habitat of low quality and extensively grazed sheep pasture such that the availability of undisturbed nest sites is already limited.
- 8.5.30 There will be short-term, temporary, **negative effects** on breeding birds of **Local importance** which would be **significant** at the **Site level** only.

Wintering Birds

- 8.5.31 The loss of grassland habitat during construction in Work Nos.1 to 5 could reduce the amount of habitat available to wintering birds which were recorded foraging on the Site during the wintering bird surveys in 2023-2024 set out in Appendix 8.6. However, the Proposed Development is on intensively grazed pasture which is common in the surrounding landscape and habitats within Area C will be retained.
- 8.5.32 There will be short-term, temporary, **negative effects** on wintering birds of **Local importance** which would be **significant** at the **Site level** only.

Operational Phase

8.5.33 The assessment of impacts on ecological receptors are based on the information provided as part of Chapter 3 – Site and The Proposed Development Description and Chapter 5 – Construction and Decommissioning Methodology and Phasing. The assessment takes account of the Parameter Plan (Figure 3.4), which is based on the Work Plans secured through the DCO.

8.5.34 During the operational phase of the Proposed Development, the Wind Farm which occupies Area D will also be in operation then decommissioned, unless a decision by the Operator is taken to replace or retrofit it. The impacts of the ongoing operation and subsequent decommissioning have been considered as part of the operation of the Proposed Development where impacts could occur.

Statutory Designated Areas

~~8.5.34~~8.5.35 With the absence of any ground works during operation, there is unlikely to be pollution incidents or opportunities for surface flows to transport sediments which could reach watercourses which flow downstream into the River Derwent and Bassenthwaite Lake SAC and River Derwent and Tributaries SSSI.

~~8.5.35~~8.5.36 Improved surface vegetation cover will reduce surface water flows and reduce sediment loads entering watercourse. Further enhancements in riparian planting and a reduction in grazing at the Site will benefit qualifying species through improved water quality.

~~8.5.36~~8.5.37 Although the Site was found to support species of wintering birds, in particular herring gull, it is not considered to be functionally linked to the Solway Firth SPA.

~~8.5.37~~8.5.38 It is considered that there will be **no significant effects** on the statutory designated sites during the operation of the Proposed Development.

Non-Statutory Designated Areas

~~8.5.38~~8.5.39 The small area of the Dean Moor CWS which lies within the Site will be subject to limited maintenance such that significant effects are unlikely. However, the remaining area of the CWS within the Site which will be retained for mitigation and enhancement will benefit from being removed from an intensive grazing regime associated with sheep farming.

~~8.5.39~~8.5.40 Access to the Site during operation from Branthwaite Edge Road will be minimal so effects on the SRV associated with gaining Site access during operation will be negligible.

~~8.5.40~~8.5.41 Therefore, there will be short-term, permanent, **positive effects** at the **Local level** on non-statutory designated areas, specifically Dean Moor CWS, during the operation of the Proposed Development. However, this effect will be **not significant**.

Habitats

~~8.5.41~~8.5.42 Once constructed, the Proposed Development is likely to require limited maintenance and invasive ground works are unlikely to be needed during operation. Vegetation structure, habitat complexity, and plant diversity will be enhanced through the growth and establishment of buffer strips along hedgerows, the planting of standard trees, scrub and woodland and the enhancement of existing woodland. Buffer strips and riparian planting will further benefit watercourses and ponds. These details are included in the Landscape Strategy Plan provided as Figure 7.6.1-7.6.5 in Chapter 7 – Landscape and Visual, and Work No. 6 – Green Infrastructure.

~~8.5.42~~8.5.43 Grassland and hedgerow management will support habitat complexity, species diversity and incorporate both fruit bearing and nectar producing shrubs and plants.

8.5.44 The Wind Farm has been designed to operate automatically and be monitored remotely minimising the need for work teams to attend to it. However, maintenance of the turbines and infrastructure, including internal

tracks, drainage ditches, culverts and silt traps will be ongoing. Only in cases of an unplanned stoppage would cranes be needed to attend the works area requiring turf stripping to access hard standing currently in place, albeit located below ground level. Maintenance is considered to be at a low level with any major works requiring appropriate environmental controls and method statements to safeguard habitats.

8.5.45 The decommissioning of the Wind Farm will have a limited impact on habitats which will require crane access to dismantle turbine blades and associated infrastructure. All infrastructure will be removed to below ground level and all exposed areas either re-seeded or turfed.

8.5.46 The access road previously built for construction will be used by cranes to access turbine locations during dismantling and transportation off Site. While there may be some disturbance or damage to habitats this is most likely to be limited to grassland, scrub and potentially some small sections of hedgerow where they abut the access track should it need to be widened.

8.5.47 Overall, impacts to habitats from decommissioning of the Wind Farm have been avoided through the maintenance of a buffer around turbines and their existing landscaping as indicated in the Landscape Strategy Plan provided as Figure 7.6.1-7.6.5 in Chapter 7 – Landscape and Visual.

8.5.438.5.48 Ancient woodland is not present within the Site, with the closest being the replanted ancient woodland adjacent to the western part of the Area C boundary. This habitat will not be impacted during operation.

8.5.448.5.49 Overall, during operation there is anticipated to be a long-term, permanent, **positive effect**, on habitats at the **Site level** although it is **not significant**.

Species

8.5.458.5.50 Direct impacts to species, such as mortality and disturbance, are unlikely during operation due to the limited attendance needed as part of maintenance. Habitat loss and fragmentation has the potential to disrupt

the use of the Site by some species groups, but the magnitude of Site loss is limited in light of the availability of other suitable habitat in the surrounding landscape. The likely significant effects to species during operation are presented below.

Bats

~~8.5.46~~8.5.51 Existing habitats of value to foraging and commuting bats will be retained and enhanced. The Proposed Development will not be permanently lit during operation. Where lighting is utilised (such as at access points to ancillary buildings), it will be shielded, point downwards and be switch or motion activated. The Proposed Development will operate in accordance with the ecologically sensitive lighting regime as set out in the OLEMP (Appendix 7.7). Given the proposed lighting regime on-Site during operation, it will not have any impacts on the foraging behaviour or use of the Site by bats.

8.5.52 The operation of the Wind Farm has reduced the impact on bats by removing trees within 80m of the turbine during its construction to avoid mortality and injury caused by collisions with turbine blades. This buffer has been maintained as part of this Proposed Development, and the enhancement to existing woodland in Area D restricted to the west and southern boundaries of the pond and not immediately adjacent to turbines. The improvements to hedgerows, woodlands and creation of buffer strips to establish an extensive Green Infrastructure network will provide opportunities for bats to traverse the site and not be limited to the woodland which is located either side of the Wind Farm.

8.5.53 While decommissioning of the Wind Farm may have a small impact on hedgerows to facilitate access along the existing track, the length of section removed will be minimal and unlikely to disrupt bat flight lines or foraging behaviour. Hedgerows will also be in significantly better condition and supported by vegetated buffers to support bat movement across the Site. The species assemblage recorded on the Site are also least sensitive to habitat disruption of this small scale.

8.5.54 Works associated with demolition at the Wind Farm will also not affect bats as no trees are present which will require removed, not least the Operator of the Windfarm will require environmental studies to inform a decommissioning method statement which will need to be prepared and agreed with the Council at least 6 months before works is due to commence.

8.5.478.5.55 The retention of hedgerows and buffer strips along watercourses throughout the Site, will promote invertebrate biodiversity and thereby food resources for bats. During operation, and accounting for the operation and decommissioning of the Wind Farm, there will be **no significant effects** to bats.

Otter

8.5.488.5.56 Protection and enhancement of vegetation corridors along watercourses will be of benefit to otters. Fences which bisect habitats to protect solar infrastructure, in particular those close to watercourses, or access tracks will be designed to enable otter dispersal. Mammal gaps in perimeter fences will be included which link suitable on-Site habitats for otters to those off-Site.

8.5.498.5.57 The low levels of maintenance will lead to **no significant effects** on otter.

Breeding Birds

8.5.58 Despite the reduction in available habitat under solar arrays, it is limited in value, especially due to intensive sheep grazing. However, the enhancement of the grass sward within the Site, the establishment of margins during operation and proposed habitat enhancements across the Site will convey benefits to breeding birds.

8.5.59 As with bats, the ongoing operation of the windfarm will occur for part of the lifetime of the Proposed Development. The habitat buffer established during construction of the Wind Farm has been maintained while habitat enhancements have been restricted to the west and southern boundaries

of the pond in Area D to reduce turbine collisions. Enhancements to hedgerows, woodlands and grasslands and creation of scrub across the Site, as part of the Green Infrastructure, will maximise the availability of suitable nesting habitat for birds and not limit them to existing and enhanced habitats in Area D.

~~8.5.50~~8.5.60 The decommissioning of the Wind Farm will have to account for the presence of nesting birds in habitats which may be affected by access, turbine dismantling and the transportation of materials off Site. Environmental studies will be undertaken by the Operator and a method statement agreed with the Council at least 6 months prior to works. Such a method statement will address protection measures for nesting birds.

~~8.5.51~~8.5.61 With the protection of riparian edges along watercourses, at hedgerows, and a reduction in grazing pressure across the Site, there will be an overall long-term, permanent, **positive** effect on breeding birds. However, this effect will be **not significant** at the **Local level**.

Wintering Birds

~~8.5.52~~8.5.62 The reduction of open grassland habitat over winter will reduce the amount of habitat available to some species of birds which forage on the Site during winter. However, the enhancements to grassland diversity and sward heterogeneity across the Site, particularly in Area C; continued establishment of margins adjacent to hedgerows and watercourses, and improved hedgerow structure and condition will convey benefits to some species of wintering birds through the provision of suitable shelter and enhanced food availability.

~~8.5.53~~8.5.63 With the protection of riparian edges along watercourses and at hedgerows, reduction in grazing pressure across the Site and the availability of similar habitats in the surrounding environment, there will be sufficient opportunities for foraging and sheltering by birds which occupy the Site over winter.

~~8.5.54~~8.5.64 The Site supports four bird species which are qualifying features of the Solway Firth SPA. However, only herring gull were recorded in any

notable numbers, and the Site was generally used for loafing rather than feeding. Consultation with Natural England received also highlights that herring gull associated with a colony in the village of Lillyhall, 1.5km to the west of the Site, roost on the Morecambe Bay and Duddon Estuary SPA, which is to the south, rather than the Solway Firth SPA.

8.5.65 The operation of the Wind Farm is unlikely to impact wintering birds as survey data from Area D (ES Appendix 8.6 Wintering Bird and Hen Harrier Survey Report [APP-155]) indicate that most species are small passerines and are most frequently confined to the habitat edges which comprise woodland and scrub. The pond is used by some species, such as mallard and moorhen, but generally only in small numbers (although mallard had a peak count of 11 in December 2023) and are consistently present throughout winter.

8.5.66 Although decommissioning of the Wind Farm may cause disturbance, such works will have to be approved by the Council and subject to appropriate environmental surveys and a method statement. Such works may occur in winter so as to avoid the more sensitive breeding bird season. Decommissioning will be able to rely on the existing established track network which will avoid disrupting any species which may form flocks on areas of open grassland in Areas A, B and C.

~~8.5.55~~8.5.67 Given suitable alternative habitat is available in the wider landscape for gulls and that other species can make use of habitats on-Site, there are **no significant effects** to wintering birds during operation.

~~8.5.56~~8.5.68 As the Site is not used by hen harrier, there will be **no significant effects** on this species during operation.

Decommissioning Phase

~~8.5.57~~8.5.69 The decommissioning phase will require vehicles and personnel to dismantle and remove solar arrays, associated infrastructure, and reinstate the land to its current use (further information is available from Chapter 5 – Construction and Decommissioning Methodology and

Phasing and the FDMP (Appendix 5.4)). Impacts associated with decommissioning will be similar in most cases to construction effects. However, where differences exist, they are included here.

Statutory Designated Areas

~~8.5.58~~8.5.70 Any excavation or ground works, including the removal of underground cabling has the potential to lead to pollution events, the release of sediments, or alter surface water flows which could enter surface channels and reach downstream designated sites such as River Derwent and Bassenthwaite Lake SAC. The potential for effects will be minimised by the presence of buffer strips along watercourses or by phased works and as indicated in Work No. 6. Should negative effects to designated sites occur they will be of short duration and only for the period of decommissioning.

~~8.5.59~~8.5.71 Qualifying bird species of the Solway Firth SPA will not be impacted by decommissioning, so there will be **no significant effects**.

~~8.5.60~~8.5.72 There will be short term, temporary, **negative effects** on the River Derwent and Bassenthwaite Lake SAC during decommissioning which will be **not significant**.

Non-statutory Designated Areas

~~8.5.61~~8.5.73 Decommissioning within Work No. 1 and within Dean Moor CWS has the potential to damage habitats, including those which have developed since the Proposed Development was constructed. These effects would be temporary for the duration of decommissioning and localised to the areas where infrastructure is being decommissioned. Removal of material off-Site will be controlled such that the likelihood of vehicles impacting the SRV, should access be needed in this area, will be negligible.

~~8.5.62~~8.5.74 There will be short-term, temporary, **negative effects** on non-statutory designated areas during decommissioning which will be **not significant**.

Habitats

~~8.5.63~~8.5.75 Habitats created and enhanced during the lifespan of the Proposed Development, in particular enhanced grasslands, could be damaged during decommissioning. Buffers along hedgerows and watercourses could be damaged or fragmented depending on works methods and routes of access. There will be short-term, temporary, **negative effects** on habitats during decommissioning, but they will be **not significant**.

Species

~~8.5.64~~8.5.76 Impacts to species will likely be the same as construction in so far as direct mortality, disturbance, and habitat fragmentation. Re-establishment of grassland may convey benefits to ground nesting birds and those which may rely on the Site over winter for foraging. There will be short-term, temporary, **negative effects** on species, but which will be **not significant**.

8.6 Mitigation Measures

8.6.1 Embedded mitigation measures incorporated into the design of the Proposed Development are set out above. This section sets out any further mitigation which is required to avoid significant negative effects, ensure legal compliance, ensure best practice is delivered, and to contribute to environmental enhancements including delivery of BNG.

Construction Phase

8.6.2 During the construction of the Proposed Development, mitigation measures will be put in place within the Site boundary to protect habitats and species.

8.6.3 A CEMP that is substantially in accordance with the OCEMP (Appendix 5.1) will be implemented to prevent likely significant effects to all environmental receptors on the Site, including habitats, species, and geology. The OSMP (Appendix 5.3) and OCEMP provide details on soil

management; protection of features such as trees and hedgerows, and the establishment and protection of margins.

Statutory Designated Areas

- 8.6.4 The implementation of the CEMP, in particular, the implementation of pollution prevention and controls will reduce the likelihood of fluids, sediments and chemicals entering watercourses which eventually flow into the River Derwent and Bassingthwaite Lake SAC. Self-contained or dry wheel washing facilities will be used where possible. If water is used, then potentially contaminated water will be collected and tankered off-Site for appropriate disposal.
- 8.6.5 No Site-specific mitigation is required for impacts to qualifying species of the Solway Firth SPA, as the Site is not considered to be functionally linked land.

Non-statutory Designated Areas

- 8.6.6 There will be clear demarcation of Dean Moor CWS in Work No. 1 to ensure construction traffic and Site personnel do not access sensitive habitats on the Site. Where the Proposed Development involves construction within Dean Moor CWS, then this will be overseen by the ECoW to ensure that the most sensitive habitats, including PMRP communities are not impacted by traffic, pollution, and dust.
- 8.6.7 The CEMP will also contain information on the location of the other CWS in close proximity, namely Gilgarran Plantation, and Wythemoor, as well as SRV MK P3 which may lie close to an access route for construction traffic.

Habitats

- 8.6.8 Habitats which are to be retained on-Site and subject to management to improve their condition as part of minimum BNG commitments (further information in the OLEMP at Appendix 7.7), including woodland, hedgerows, and areas of scrub will be protected from Site work through the erection of temporary protective barriers or Site perimeter fencing.

- 8.6.9 Using existing access routes and removal of internal fence lines to access areas of the Site will be used preferentially to hedgerow removal. Where hedgerow removal is needed then the minimum width will be removed; sections in poor condition (and without trees) will be selected; hedges will be cut to their base as opposed to being dug out, and roots will be protected with sandbags or bog mats or equivalent.
- 8.6.10 SuDS infrastructure will take account of the sensitive habitats, including Thief Gill and Lostrigg Beck which are known to support migratory European eel and brown trout as well as otter. Further information on drainage is available from the FRA (ES Appendix 2.4).

Species

- 8.6.11 Prior to works commencing, pre-construction surveys for protected species will be carried out in accordance with the OCEMP (Appendix 5.1) to identify any change in Site use, including the potential for otter holts and badger setts to have been created.
- 8.6.12 The CEMP will advise on the appropriate location and structure, including vegetative screening, of gaps in the perimeter fence to promote uptake and use by protected and notable species.
- 8.6.13 Construction, including any vegetation clearance requirements, will be managed to avoid impacts to protected species via species protection plans in accordance with the CEMP. This may include avoiding vegetation clearance during the bird breeding bird season which runs from March to September, inclusive. Where this cannot be achieved, the ECoW will undertake pre-works checks and/or supervise works in accordance with the CEMP.
- 8.6.14 Any lighting used on the Site during construction will be in accordance with the ecologically sensitive lighting strategy as set out in the OCEMP. This will reduce impacts on foraging and commuting bats.
- 8.6.15 Soil stripping in compound locations will be supervised by the ECoW as necessary to advise on the retention of valuable habitats such as

hedgerows; to ensure that adequate protection watercourses including the appropriate placement and erection of silt fences, and that bunds are correctly sealed and not close to watercourses. Further information is available from the OSMP (Appendix 5.3).

- 8.6.16 Mitigation measures regarding the Dean Moor CWS will be undertaken in accordance with the CEMP so that displaced wildlife, in particular breeding and wintering birds, have alternative habitats on which to nest and forage.

Operational Phase

- 8.6.17 During the operation of the Proposed Development, mitigation measures will be put in place to improve habitats within the Site boundary.
- 8.6.18 A LEMP that is substantially in accordance with the OLEMP (Appendix 7.7) will be adopted to implement, maintain, and monitor mitigation and enhancements to reduce likely significant effects to landscape and ecological receptors. Furthermore, the LEMP will also ensure the delivery of minimum BNG commitments as set out therein.
- 8.6.19 The OLEMP includes measures to reduce impacts associated with operation such as:
- Details of barriers and fences which may be erected to protect buffer areas, for example alongside hedgerows, watercourses, ancient woodland and peat containing soil, but also that protecting valuable solar PV infrastructure. The LEMP will detail, but not limited to fencing/barrier specifications; the inclusion of any mammal gates within the Site (not including those along the perimeter fence); and a programme of maintenance;
 - The implementation of a GMP (as part of the LEMP) will set out how, for example, how stock will be controlled, what measures will be implemented to prevent overgrazing or poaching of watercourses, and measures to be taken should overgrazing or poaching of watercourses be identified. The GMP will benefit the Site through relaxation of grazing, facilitating the re-establishment of semi-natural habitats including those formerly present on the Dean Moor CWS, and associated benefits to flora, fauna, and water quality;
 - Details of planting and seed mixes to enhance hedgerow boundaries and riparian corridors. These will be representative of the local

landscape. It will set out ground preparation requirements, including habitat creation, management, and monitoring for the duration of the operational phase;

- Details on how watercourses and ponds will be enhanced to promote and maintain fringe and open water habitats which will benefit riparian plant species, invertebrates, birds and aquatic species, including European eel and brown trout;
- The appointment of suitably qualified ecologists to undertake tasks including monitoring visits report on success or otherwise of planting and provide advice and on-Site presence for any ancillary work needed for the operational phase; and
- A Biosecurity Management Plan to prevent the spread of INNS plant species. Measures will be taken to prevent INNS from becoming established on-Site.

Statutory Designated Areas

- 8.6.20 There are no additional mitigation measures which need to be implemented to reduce impacts to statutory designated areas during operation. The enhancements to riparian corridors within the Site will improve the quality of water which flows downstream and towards statutory designated areas. Species which make use of the watercourses on-Site, will benefit from these bank-side habitat enhancements.

Non-statutory Designated Areas

- 8.6.21 The implementation of a GMP will control livestock access across the Site. An aim of the GMP will be to enhance the area of Dean Moor CWS that falls within the Site through a reduction in grazing pressure. This will enable more natural upland habitats to re-establish, and support protected and notable species, including both breeding and wintering birds, and hen harrier.
- 8.6.22 The LEMP will also ensure the appropriate maintenance of the Dean Moor CWS to ensure that natural upland habitats can re-establish following reduced grazing activity. The LEMP will set out how PMRP communities will be encouraged to re-establish at Dean Moor CWS.

Habitats

- 8.6.23 Habitat management during the operational phase, through the implementation of the LEMP will minimise impacts to ecological features and improve biodiversity across the Site, including where solar infrastructure is located. The aim of the LEMP will be to enhance the habitats on-Site, including hedgerows and riparian habitats, grassland across the Site, peat areas, and watercourses. This will be supplemented by a GMP to achieve a reduction in grazing pressure. This will enable more natural upland habitats to re-establish.

Species

- 8.6.24 Any maintenance carried out which may affect sensitive habitats or species will be discussed with a suitably qualified ecologist who will be able to advise on the requirement of any survey or constraint which may be needed before works occur. Any operational phase works will consider the presence of protected species, such as otter and reptiles which may occupy the Site given habitat improvements to hedgerows, and other habitats.
- 8.6.25 Appropriate timing of maintenance works during operation will avoid impacts to species such as bats. The use of lighting will be governed by the ecologically sensitive lighting strategy in accordance with the OLEMP. This will prevent the illumination of important habitats such as woodland and hedgerows.

Decommissioning Phase

- 8.6.26 Mitigation during decommissioning will be provided by the implementation of a Decommissioning Management Plan, which will be substantially in accordance with the FDMP (Appendix 5.4). This will set out how works will be undertaken to reduce impacts to habitats and species; protect statutory and non-statutory areas; and how disturbance and habitat fragmentation will be avoided. As the Site will have evolved during operation it is likely to contain a greater species diversity, the DMP will also demonstrate how any impacts of mortality and disturbance will be avoided, especially if

works are required to be carried out during sensitive periods (e.g. nesting season).

Statutory Designated Areas

- 8.6.27 The DMP will take into account potential effects to the River Derwent and Bassenthwaite Lake SAC and the River Derwent and Tributaries SSSI.

Non-statutory Designated Sites

- 8.6.28 The FDMP provides a framework of mitigation measures to avoid impacts on non-statutory designated sites, such as the Dean Moor CWS and SRV MP K3.

Habitats

- 8.6.29 The FDMP provides a framework of measures to avoid and minimise impacts to habitats on-Site during decommissioning.

Species

- 8.6.30 Mitigation measures identified, as appropriate, for species during construction are likely to be relevant during decommissioning and are provided via the FDMP.

8.7 Residual Effects

- 8.7.1 This section sets out the assessment of residual effects in the context of all committed embedded and additional mitigation set out in sections 8.5 and 8.6 above.

Construction Phase

Statutory Designated Areas

- 8.7.2 Provided all mitigation is included, the residual effects on statutory designated areas, in particular the River Derwent and Bassenthwaite Lake SAC and River Derwent and Tributaries SSSI, and the Solway Firth SPA will be **not significant**.
- 8.7.3 Potential effects to European sites are presented in the sHRA (Appendix 8.7) which accompanies this Chapter.

Non-statutory Designated Areas

- 8.7.4 Notwithstanding the implementation of the OCEMP (Appendix 5.1), there will be short-term negative effects on a small part of Dean Moor CWS, which is considered **significant** at the **Local Level**.
- 8.7.5 Following procedural measures outlined in the OCEMP (Appendix 5.1) construction works will have **no significant residual effects** to the SRV MP K3 or other non-statutory designated areas.

Habitats

- 8.7.6 There are **no significant residual effects** to habitats during construction.

Species

- 8.7.7 Following the measures set out in Section 8.6, there will be **no significant residual effects** to species during construction.

Operational Phase

Statutory Designated Areas

- 8.7.8 There will be **no significant residual effects** on statutory designated areas, in particular the River Derwent and Bassenthwaite Lake SAC and the River Derwent and Tributaries SSSI.

Non-statutory Designated Areas

- 8.7.9 Although a small part of Dean Moor CWS may be co-located with solar PV infrastructure, the CWS within the Site will be enhanced through the cessation or relaxation and management of grazing. This will enable more natural upland habitats to re-establish, including PMRP communities. The re-establishment of natural habitats across a large area of the CWS within the Site will offset any residual construction effects.
- 8.7.10 Overall, given the large area to be enhanced residual effects to Dean Moor CWS are likely to be long-term, **positive** at the **Local level**, which will be **significant**.
- 8.7.11 There will be **no residual effects** to the SRV MP K3.

Habitats

- 8.7.12 The implementation of the Landscape and Ecology Plan ('LEP') (to be substantially in accordance with the Landscape Strategy Plan) in conjunction with the cessation or relaxation and management of grazing, as well as other enhancements and management measures set out in the OLEMP will benefit habitats across the Site.
- 8.7.13 The Proposed Development will have a long-term, **positive effect** on habitats at the **Site level**. This effect will be **not significant**.

Species

Bats

- 8.7.14 The residual effect on bats during operation will remain **not significant**.

Otters

- 8.7.15 The residual effect on otters during operation will remain **not significant**.

Breeding birds

- 8.7.16 The residual effect on breeding birds during operation remains **positive** and **not significant** at the **Local level**.

Wintering Birds

- 8.7.17 The residual effect on wintering birds during operation will remain **not significant**.

Decommissioning Phase

Statutory Designated Areas

- 8.7.18 There are **no significant effects** during decommissioning on the Solway Firth SPA or the River Derwent and Bassenthwaite Lake SAC and the River Derwent and Tributaries SSSI.

Non-statutory Designated Areas

- 8.7.19 Decommissioning will have short-term, **negative effects** on a small part of Dean Moor CWS which lies in Work Nos. 1, 3, and 6. However, as such a

small part of the CWS will be affected and which will not undermine its conservation objectives, these effects are considered **not significant** at the **Local level**.

Habitats

- 8.7.20 Decommissioning will have short-term, **negative effects** on habitats which would be considered **not significant** at the **Site level**.

Species

- 8.7.21 Following the measures set out in section 8.6, it is anticipated that there will be **no significant effects** to species during decommissioning.

8.8 Cumulative Effects

- 8.8.1 Planning applications within 10km of the Proposed Development are presented in Chapter 2 – EIA Methodology. These have been reviewed to identify any likely cumulative effects in association with the Proposed Development with the detail provided in Table 8.6.

Table 8.6: Appraisal of applications and likely cumulative impacts

Application	Ecology Impacts of Development
<u>Formerly</u> EN0110004 <i>Lostrigg Solar</i>	Immediately adjacent to north of the Site. <u>At Pre This project was at pre-application stage for a solar farm with over 50MW capacity. While this has since been withdrawn as a DCO project, it remains under consideration within the ES due to the expectation that it may come forward under the Town and Country Planning Act regime.</u> The PEA included within Scoping Report⁴⁸ (published in June 2024) identified possible impacts on European sites and locally designated sites, as well as habitats on-site. Impacts to species such as badger, bats, breeding and wintering birds, GCN, otter, reptiles, invertebrates have been identified caused by habitat loss, fragmentation and disturbance during construction.
FUL/2021/0009 <i>Land at Lillyhall North, Branthwaite Road, Winscales, Workington</i>	Despite being 1.3km northeast of the Site, the application area is small and supports a limited assemblage of protected species. The PEA was carried out in 2020. The site was noted as being in the West Cumbria hen harrier over-wintering area. Surveys commenced for this species, but none were identified. GCN eDNA Surveys at accessible ponds returned

⁴⁸ Lostrigg Solar EIA Scoping Report – Appendices (2024) <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN0110004-000002-EN0110004%20-%20Scoping%20Report%20-%20Appendices.pdf>. Accessed November 2024

Application	Ecology Impacts of Development
	a negative result. Likely presence of other protected species badgers, otters, foraging bats, breeding birds, red squirrels and reptiles noted, as were brown hare, and hedgehogs.
FUL/2022/0159 <i>Proposed Residential Development, Woodville Way, High Harrington</i>	Located approximately 2.8km west of the Site. The application area is small and separated from the Site by Lillyhall and lies immediately adjacent to the eastern edge of the settlement of High Harrington. The PEA was completed in 2022, and it identified that the site was dominated by improved grassland, with some scrub and ruderal vegetation also present, while broad-leaved woodland, scattered trees and species poor hedgerows are also present. The site was considered to have some suitable nesting and foraging opportunities for birds but was more limited for wintering species. No buildings were present which could support bats, although a small number of trees were present which could contain roosts. Woodland and hedgerows were identified as being of moderate to high suitability for foraging and commuting bats. The site was considered to offer limited suitability for badgers, hedgehogs, amphibians, and red squirrels while reptiles were considered to be absent. The survey report made a number of recommendations for pre-works surveys, but not for hen harriers or wintering birds.
FUL/2020/0250 <i>Land East Of, Main Road, High Harrington, Workington, Cumbria</i>	Outline application for residential development with matters of estate layout, scale, appearance and landscaping reserved. Located approximately 3km west from the Site. Currently under construction. The site comprises four grassed fields used for pastoral farming with hawthorn hedge boundaries. It abuts the southern edge of existing residential area at High Harrington. A review of the Phase 2 Site Appraisal, submitted as part of the planning application, and aerial images, indicates there are no watercourses or ponds on Site, woodland or other notable habitats. A PEA report (September 2020) referred to in the unsigned Decision Notice was not available at the time of writing on the Council's online planning portal. However, paragraph 13 of the Decision Notice stated that the development should be undertaken in accordance with the recommendations and mitigation measures contained within the PEA.
FUL/2019/0304 <i>Land at Stainburn Hall Farm, Stainburn, Workington</i>	Located approximately 4.5km north from the Site. The application area is small of low ecological value, and construction will adopt measures set out in the planning application's supporting HRA. The planning application included a PEA in 2019 and an HRA in 2020, given the proximity of the River Derwent and Bassenthwaite Lake SAC. The site is of low ecological value and used for cattle grazing. It has potential for breeding birds and could support roosting and foraging bats. It could support foraging

Application	Ecology Impacts of Development
	badgers, hedgehogs, and brown hare, but not GCN or water vole. The HRA included in the planning application identified need to reduce sedimentation and pollution which included phased topsoil stripping, appropriate soil storage, erection of silt fencing, implementing a pollution prevention and control strategy, and appointing an ECoW to oversee works as required.
FUL/2022/0285 <i>Land at Yearl Rise, north east of Calva Farm, Seaton Road, Seaton</i>	Located approximately 5.2km northwest from the Site. The application area is small, and is of low ecological value, and protected species presence is limited. The HRA included in the planning application ruled out standalone or in-combination effects. The PEA included in the planning application which was carried out in 2022 along with HRA due to the proximity of River Derwent and Bassenthwaite Lake SAC and Solway Firth SPA. No ponds were identified as being suitable for GCN. The site was considered to be suitable for breeding birds and foraging bats but not roosting bats. The presence of badger, hedgehog, red squirrel, hazel dormouse, and otter were considered unlikely. Wintering bird surveys identified only common farmland species. Precautionary working methods were recommended. Wintering bird surveys identified no qualifying species of SPA while no hydrological link to SAC. Unlikely to be standalone or in combination effects of development on designated sites.
2/2018/0493 <i>Land east of Causeway Road, Seaton, Workington</i>	Located approximately 5.8km north from the Site. The application area is small, and the presence of protected species is limited. No PEA for the planning application was included on Council's planning portal website at the time of writing. Bat surveys of a single property identified a small roost of common pipistrelle. Reptile surveys identified the presence of small population of slow worm.
FUL/2021/0166 <i>Land off Curwen Road, Workington</i>	Located approximately 6.5km northwest from the Site, on the west side of Workington, and within a very urban setting. The application area is small such that no focussed ecology surveys were undertaken (e.g. PEA). The Desk Study Report as part of Supplementary Environmental Risk Assessment for Controlled Waters and Environment that was included as part of the planning application, identified no ecological designations within 250m of the site. No site survey was undertaken. A small blue butterfly statement ruled out presence of this species.
OUT/2021/0026	Located approximately 9.3km north from the Site. The application site is very small. It is located in a residential and

Application	Ecology Impacts of Development
<i>Land east of Station Road, Flimby, Maryport</i>	industrial setting and the likelihood of supporting protected species was very limited. An extended Phase 1 PEA was carried out in March 2021. The site is pastoral fields with small stands of scrub and ruderal plants, a hedgerow along northern margin and mature trees located on margins. The Solway Firth SPA is located approximately 200m west. The site has suitability for hedge and tree nesting species but not for badgers, bats or red squirrel and has only limited value for hedgehogs. Scope of works rules out impacts to neighbouring SPA and recommendations for adopting best working practices made.
FUL/2023/0063 <i>Land at Derwent Forest, Broughton Moor, Great Broughton</i>	Located approximately 7.3km from Site. Application for 71 residential units including access, visitor centre, and car parking. The area of site spans 10ha and is part of a wider Derwent Forest site which is c420ha. The Environmental Statement, submitted in support of the planning application, includes a on ecology, as well as details of surveys for: Phase 1 habitat; preliminary roost assessment report; GCN, badgers and water vole. The site is predominantly grassland but with low level of agricultural/pastoral management. Phase 2 surveys, undertaken in support of the planning application, established the following: a small population of GCN exists; bats roosts identified in buildings and in a bat box affixed a tree; evidence of barn owl using several buildings; otter confirmed present but no holt; potential for water vole to occupy ditch network; badgers present but no setts identified. An Ecological Constraints and Opportunities Overview Letter Report supporting the planning application identified the River Derwent and Bassenthwaite Lake SAC within 2km and other nationally designated statutory and non-statutory sites. The report recommended a HRA for any development within the site that drains into the SAC. However, no HRA was available within the Council's online planning portal.
OUT/2021/0026 <i>Land east of Station Road, Flimby, Maryport</i>	Application is 9.3km from Site. Residential development of 59 dwellings and associated infrastructure. The development area is considered to be small and lies at the north end of Flimby. The dominant habitat on the site comprises disturbed ground, improved grassland, scrub, hedgerows with several mature trees around the border. An extended Phase 1 Ecology Survey and Appraisal was undertaken in support of the planning application. The Solway Firth SPA was identified within 200m of the site, with other statutory designated areas within 5km. Impacts to most species was considered to be negligible, although recommendations were provided for nesting birds and hedgehogs.

Application	Ecology Impacts of Development
	Given nature and scale of development, the Phase 1 report suggested that direct or indirect adverse effects on the SPA were provisionally assessed as negligible. Nonetheless, it suggested that the requirement for an HRA screening exercise should be considered by the Council. The Decision Notice (available from the Council's online planning portal) makes no reference to an HRA but pre-commencement conditions relating to bats and a follow up ecological habitat survey is made.
FUL/2020/0010 Land to the east of Heatherfields, Broughton Moor, Maryport	Residential development of 66 dwellings and associated infrastructure 8.8km north of Site. The development area covers 2.36ha and is primarily used for agricultural grazing. A PEA has been produced for the planning application and is available from the Council's online planning portal. This included extended Phase 1 habitat surveys for badgers and red squirrel, and an assessment for other potential protected species issues. The PEA searched for statutory and non-statutory sites within 1km but confirmed that none are within 500m. The site is dominated by poor semi-improved grassland and supports running water, a defunct hedge and fence-lines. No badger setts have been identified on the site, there were no features capable of supporting roosting bats, and no signs of red squirrels were recorded.
4/22/2308/001 <i>Leconfield Industrial Estate, Cleator Moor</i>	Located approximately 7km south from the Site. Although the application area is large, it is located immediately adjacent to a built-up area of Cleator Moor. Protected species are present but limited in assemblage and population size. It is not in same catchment as the Site, so no impacts to the River Derwent and Bassenthwaite Lake SAC will occur. The PEA included as part of the planning application was carried out in November 2021. The site supports a range of habitats, including woodland, scrub, and grassland communities. Areas of fen, swamp and both standing and running water occur. No GCN risk was identified; two small day roosts of common pipistrelles were identified; a small population of common lizards were identified, as well as suitable habitat for foraging badgers and commuting otters, but not for water voles and other species, such as red squirrel, hedgehog, brown hare, and polecat. Woodland, scrub, and grassland likely to support several bird and invertebrate species were also identified. Recommendations for appropriate working practices and enhancements were included in the PEA. A HRA was carried out due to the site's proximity to the River Ehen SAC. The development was considered to have a risk of pollution during its construction and operation phases, particularly from surface water run-off. However, this would be mitigated with appropriate controls.

Application	Ecology Impacts of Development
4/23/2076/001 <i>Land off Dalzell Street, Moor Row, Egremont</i>	Located approximately 8.5km southwest from the Site. The site is immediately north of the settlement of Moor Row. It comprises a small area of 2.5ha and has limited suitability for protected habitats and species. The PEA included as part of the planning application was carried out in 2022. The site comprises areas of grassland, rush pasture, scrub, bare ground, and hardstanding. The site has potential to support badgers, foraging bats, red squirrel, breeding, and foraging birds, but not otter or water vole. GCN were considered absent, and no terrestrial invertebrates of note were recorded. No impacts to the River Ehen SAC were anticipated.
4/22/2237/001 <i>Land at Summergrove Park, Whitehaven</i>	Located approximately 8.5km southwest from the Site. The application area is small, and the presence of notable habitats and species is limited. The PEA included as part of the planning application was carried out in April 2022. The site is semi-improved grassland with mature hedgerows and trees. It is likely to support foraging bats only and nesting birds, but unlikely to support badgers, water vole, reptiles, or GCN.
4/23/2198/0F1 <i>The Parks, Park Street, Frizington, Arlecdon and Frizington Parish</i>	Located approximately 6.4km southwest from the Site. The application area is small and is unlikely to require significant ground works to install. No ecology reports were submitted as part of the planning application.

Construction Phase

- 8.8.2 The majority of developments in Table 8.6 are located a far enough distance from the Site, are small in scope, and do not support habitats of high ecological value to result in likely significant cumulative effects with the Proposed Development. Several of these are also located within urbanised areas and appear not to support a wide diversity of species.
- 8.8.3 The scoping report for Lostrigg Solar sets out impacts to statutory and non-statutory sites, as well as priority habitats and species which will be considered within the assessment of environmental effects. Specific mitigation during the construction phases will likely be included as part of the development to reduce any potential negative effects.
- 8.8.4 Given the implementation of the CEMP for the Proposed Development, it is considered that there is no likelihood for in-combination effects to occur at the Site, should construction of Lostrigg Solar occur at the same time.

- 8.8.5 It is considered that there are no cumulative effects during construction on qualifying features of European sites which are common to both the Site and Lostrigg Solar. Further information is available from the sHRA (Appendix 8.7).

Operational Phase

- 8.8.6 It is assumed that mitigation will be included for the operation phase of Lostrigg Solar, to avoid or minimise any negative effects. The implementation of the LEMP and OMP for the Proposed Development, will remove likely effects, such that there will be no cumulative effects during operation with Lostrigg Solar.
- 8.8.7 It is considered that there are no cumulative effects during operation on qualifying features of European sites which are common to both the Site and Lostrigg Solar. Further information is available from the sHRA (Appendix 8.7).
- 8.8.8 A review of the other planning applications within 10km of the Site suggests that there will be no cumulative effects with other developments during the operation phase.

Decommissioning Phase

- 8.8.9 Prior to decommissioning, and as part of the preparation of the DMP, a review of other plans or projects currently in place or proposed will be reviewed to determine the potential for any significant cumulative effects.
- 8.8.10 A review of the other developments within 10km of the Site suggests that, as per the construction and operation phases, there will be no cumulative effects with other developments during the decommissioning phase.

8.9 Summary

- 8.9.1 The Proposed Development has been subject to a range of desktop and field surveys to determine the baseline and ecological value of the Site. As part of the desktop study, which reviewed data available using online sources, data relating to statutory and non-statutory sites as well as

notable and protected habitats and species was obtained from CBDC. Additional data was also sought from CBC to better understand to the use of the Site by hen harrier.

- 8.9.2 The desktop study indicated the presence of five designated European sites within 10km of the Site, the closest being the River Derwent and Bassenthwaite Lake SAC, 1.2km to the east, which is designated for its aquatic habitats and species. The SAC is also underpinned by the River Derwent and Tributaries SSSI, and the Site falls within the Natural England IRZ for the designated sites. Part of the Dean Moor CWS lies within Area C and an SRV lies along the eastern boundary of Area C. Data received from CBDC confirmed the presence of several protected species within 2km of the Site.
- 8.9.3 A PEA (Appendix 8.1) was carried out and recorded habitats using UKHab classification. The PEA was then 'extended' to include an appraisal of the habitats' suitability for protected species. The PEA was undertaken with reference to the CIEEM guidelines.
- 8.9.4 Field surveys identified that the Site mostly comprises modified grassland in line with its function as sheep grazing pasture. Woodland habitats exist on-Site in some areas, although primarily outside of the Site, including a stand of replanted ancient woodland to the west of Area C. Three notable habitats recorded on the Site comprise; lowland dry acid grassland which supports a PMRP community, ponds; and hedgerows. The hedgerows are not species diverse nor considered important under the Hedgerow Regulations. Two ponds are present on-Site. Watercourses are present across the Site, including Thief Gill, which flows northwards from the southern boundary through a steep-sided gorge before discharging off-Site via a culvert under Branthwaite Edge Road on the eastern boundary.
- 8.9.5 Surveys for GCN, bats, breeding bird, otter, and water vole, wintering bird, and hen harrier, have been carried out across the Site. Consultation was undertaken with Natural England to confirm the methods proposed for the latter two surveys were appropriate.

- 8.9.6 Surveys confirm GCN as absent from the four surveyed ponds, located within and outside of the Site. The Site has low suitability for bats, especially as a ground-based preliminary roost assessment identified no buildings or trees suitable for roosts within the Site. However, several species were recorded foraging across the Site when static bat detectors were deployed between May and September 2023. Although no holtts were identified, otter signs suggested they commute through the Site on occasion. Water vole were absent from the Site.
- 8.9.7 The Site supports several species of breeding bird, especially in hedgerow field margins and areas of woodland. Wintering bird surveys confirmed the Site was used by a range of species, including those listed as qualifying species of the Solway Firth SPA. No hen harriers were identified using the Site.
- 8.9.8 Impact to designated sites is considered unlikely given the distance from the Proposed Development. However, a sHRA is included as Appendix 8.7 of this Chapter and assesses likely significant effects associated with construction, operation, and decommissioning to the River Derwent and Bassenthwaite Lake SAC and Solway Firth SPA. The sHRA addresses risks of surface water run-off and impacts to wintering birds, and considers cumulative effects caused by the construction and operation of Lostrigg Solar to the north of the Site.
- 8.9.9 The Proposed Development has the potential to directly impact habitats and species through construction related activities, particularly if works occur during sensitive periods, such as the breeding bird season. Habitat loss and fragmentation would remove breeding and foraging opportunities for birds and bats but also has the potential to disrupt movement corridors for species such as bats and otters.
- 8.9.10 Mitigation will be implemented during the construction phase and will include a number of measures to minimise impacts to protected habitats and species as well as avoid any surface water run-off which could impact

the SAC and SSSI downstream. Mitigation will include best practice measures such as:

- Siting infrastructure away from sensitive habitats;
- Employing an ECoW to undertake checks for protected species prior to any habitat clearance;
- Limiting hedgerow removal and utilising existing routes for access;
- Protecting buffer strips adjacent to hedgerows, peat containing soils and watercourses to avoid impacts;
- Incorporating mammal gaps in perimeter fences, and
- Making use of SuDS infrastructure and swales to avoid surface water run-off carrying sediments into watercourses.

8.9.11 A CEMP will be informed by updating ecological and arboricultural surveys and will be complied with through the construction phase. A suitably qualified ECoW will be employed as part of the construction management team to oversee construction works and ensure compliance with the CEMP and other management plans e.g. Soil Management Plan and Construction Traffic Management Plan to minimise potential effects.

8.9.12 Embedded mitigation and additional mitigation measures will result in no significant residual negative effects during construction or operation on statutory designated sites, habitats, and species. Operation of the Proposed Development has also considered the ongoing operation and decommissioning of the Wind Farm which occupies part of the Site. Indeed, the implementation of a LEMP, has the potential to have a positive impact on both habitats and species as a result of sensitive habitat management and the cessation or relaxation of sheep grazing.

8.9.13 Depending on the scope of the GMP in relation to Dean Moor CWS, this positive impact will be significant, with the re-establishment of PMRP communities and knock on effects for species such as invertebrates, breeding and wintering birds. Management will also be carried out on watercourse and pond habitats to diversify the riparian corridors and promote their use by terrestrial and aquatic species. The LEMP will also include a Biosecurity Management Plan.

- 8.9.14 There will be a residual effect during construction and decommissioning on a small part of Dean Moor CWS, a site of County level importance, which would be considered significant at the Local level. During operation, the re-establishment of natural habitats across a large area of the retained CWS will offset any negative residual construction effects identified. Overall, given the large area to be enhanced, residual effects to Dean Moor CWS are likely to be positive at the Local Level.
- 8.9.15 It is concluded that the Proposed Development will not lead to any significant cumulative effects associated with other developments occurring within 10km, including Lostrigg Solar. [A summary of the assessment of biodiversity receptors is shown in Table 8.7.](#)

Table 8.7: Table of Significance – Biodiversity

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
Construction Phase										
Effects on Statutory Designated Areas	Short-term, negative effects on the River Derwent and Bassenthwaite Lake SAC and the River Derwent and Tributaries SSSI. No effects on Solway Firth SPA.	Local Level	The implementation of mitigation measures set out in the OCEMP, in particular the implementation of pollution prevention and controls. The risks to statutory areas and the importance of pollution control, as outlined in the OCEMP, will be confirmed to the Principal Contractor. The Ecological Clerk of Works ('ECoW') will ensure compliance with measures set out in the CEMP.	X	X					No significant residual effects
Effects on Non-Statutory Designated Areas	Short-term, negative effects on a small part of Dean Moor CWS. No impacts to the SRV MP K3.	Local Level	Implementation of the CEMP will ensure that the most sensitive habitats, including purple moor grass plant communities are not impacted by traffic, effected by pollution, dust, or noise. The ECoW will ensure compliance with measures set out in the CEMP.					X		Significant negative effect at the Local Level
Effects on Habitats	Short-term, negative effects	Site Level	CEMP to be substantially in accordance with the measures outlined in the OCEMP. The ECoW will ensure compliance with measures set out in the CEMP.					X		No significant residual effects.
Effects on Bats	Short-term negative effects	Site Level	A species protection plan within the CEMP will set out how bats will be protected from mortality, disturbance, and habitat fragmentation during construction.							No significant residual effects.

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
Effects on Otters	Short-term negative effects	Site Level	Pre-construction surveys will be carried out. A species protection plan within the CEMP will set out how otters will be protected from mortality, disturbance, and habitat fragmentation during construction. Mammal gaps in perimeter fences will facilitate otter movement across the Site and into surrounding habitats.						X	No significant residual effects.
Effects on Breeding birds	Short-term negative effects	Site Level	CEMP to be substantially in accordance with the measures outlined in the OCEMP. Species which will be impacted by construction works will be protected by sensitive working practices or pre-inspection vegetation clearance by the ECoW. A species protection plan within the CEMP will set out how breeding birds will be protected from mortality, disturbance, and habitat fragmentation during construction. Suitable buffers and/or protections for valuable habitats such as hedgerow and watercourses.						X	No significant residual effects.
Effects on Wintering Birds	Short-term negative effects Site is not functionally linked to Solway Firth SPA so no effects on qualifying species.	Site Level	CEMP to be substantially in accordance with the measures outlined in the OCEMP. A species protection plan within the CEMP will set out how wintering birds will be protected from mortality, disturbance, and habitat fragmentation during construction.						X	No significant residual effects.

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
Operational Phase										
Effects on Statutory Designated Areas	No effect	N/A	No additional mitigation required	X	X					No significant residual effect
Effects on Non-Statutory Designated Areas	Long-term positive effect on Dean Moor CWS No effect on SRV MP K3	Local Level	The OLEMP sets out how the CWS will be enhanced and managed by improved grassland management and seeding. It includes an Outline Grazing Management Plan ('OGMP') which sets out a grazing density and regime to promote sward diversity in CWS. The LEMP will be substantially in accordance with the OLEMP.					X		Significant positive effect at the Local Level
Effects on Habitats	Long-term positive effect	Site Level	The LEMP, including GMP will be substantially in accordance with the OLEMP so that livestock access across the Site is controlled. Details of all habitat management interventions, including biosecurity measures, are included in the LEMP, which will be substantially in accordance with the OLEMP. The Landscape Strategy Plan (Figure 7.6.1-7.6.5) also indicates how landscape features will be improved and promote green infrastructure on-Site and connect to wider green networks. This will be implemented as a Landscape and Ecological Plan ('LEP').							No significant residual effects.
Effects on Bats	No effect	Site Level	Appropriate timing of maintenance works will avoid impacts to species such as bats. If nighttime works are required, then lighting will be temporary and adopt ecologically sensitive lighting relying on low intensity bulbs and adopting cowls or hood to minimise light spill and be switch or motion activated. The OLEMP details habitat enhancements and management which have been designed to support species which occupy							No significant residual effects

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
			the Site, and which may commute across it, both along hedgerows and watercourses. The LEMP will be substantially in accordance with the measures set out in the OLEMP.							
Effects on Otters	Long-term positive effect	Site Level	Any operational works will consider the presence of protected species, such as otter which may occupy the Site given habitat improvements to hedgerows, and other habitats. Protection of solar PV arrays and associated infrastructure which crosses watercourses will incorporate measures to allow otters to move unimpeded. The OLEMP details habitat enhancements and management which have been designed to support species which occupy the Site, and which may commute across it, both along hedgerows and watercourses. The LEMP will be substantially in accordance with the measures set out in the OLEMP.						X	No significant residual effects
Effects on Breeding birds	Long-term positive effect,	Site Level	Habitat enhancement, including management of margins are set out in the OLEMP, will have a positive effect on a wide diversity of species. The LEMP will be substantially in accordance with the measures set out in the OLEMP. Habitat enhancements and suitable management of grassland, in particular, Dean Moor CWS, will promote nesting opportunities for a range of species including those which rely on open habitats with reduced grazing disturbance.						X	No significant residual effects
Effects on Wintering Birds	Long-term positive effect Site is not functionally linked to Solway Firth SPA so no effects on	Site Level	The LEMP will be substantially in accordance with the measures set out in the OLEMP.						X	No significant residual effects

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
	qualifying species.									
Decommissioning Phase										
Effects on Statutory Designated Areas	Short-term negative effects	Local Level	Prior to decommissioning, the DEMP will be followed and updated as necessary to prevent impacts to Statutory Designated Areas. Implementation of a DEMP, which will be substantially in accordance with the FDMP. The DEMP will set out how decommissioning works will reduce impacts on statutory designated areas which may be impacted by pollution; and how disturbance and habitat fragmentation will be avoided.	X	X					No significant residual effects
Effects on Non-Statutory Designated Areas	Short-term negative effects on Dean Moor CWS. No effects on SRV MP K3.	Local Level	Prior to decommissioning commencing, the DEMP will be followed and updated as necessary to prevent impacts to Non-Statutory Designated Areas. Implementation of a DEMP, which will be substantially in accordance with the FDMP. The DEMP will set out how decommissioning works will reduce impacts on non-statutory areas which may be impacted by pollution; and how disturbance and habitat fragmentation will be avoided.					X		No significant residual effects
Effects on Habitats	Short-term negative effects	Site Level	Prior to decommissioning commencing, the DEMP will be followed and updated as necessary to prevent impacts to Habitats. Implementation of a DEMP, which will be substantially in accordance with the FDMP. The DEMP will set out how decommissioning works will reduce impacts to habitats and species; which may be impacted by pollution; and how disturbance and habitat fragmentation will be avoided.							No significant residual effects

Potential Effect	Nature of Effect	Significance	Secondary / Tertiary Additional Mitigation	Geographical Importance						Residual Effect
				I	UK	E	R	C	L	
Effects on Species	Short-term negative effects	Site Level	Implementation of a DEMP, which will be substantially in accordance with the FDMP. The DEMP will be updated as necessary to prevent impacts to Species. The DEMP will set out how decommissioning works will reduce impacts to habitats and species which may be impacted by pollution; and how disturbance and habitat fragmentation will be avoided.						X	No significant residual effects
Cumulative Effects										
<i>Construction Phase</i>										
No effects	N/A	N/A	N/A						X	No effects identified
<i>Operational and Maintenance Phase</i>										
No effects	N/A	N/A	N/A						X	No effects identified
<i>Decommissioning Phase</i>										
No effects	N/A	N/A	N/A						X	No effects identified

Nature of Effect * Permanent or Temporary Short-term, Medium-term, or Long-term

Significance** International/National/Regional/County/Local/Site Positive/Negative

Geographical Importance *** I = International; UK = United Kingdom; E = England; R = Regional; C = County; L = Local

Residual Effects **** International/National/Regional/County/Local/Site Positive/Negative