

The Great Grid Upgrade

Eastern Green Link 5 (EGL 5)

Preliminary Environmental Information Report

Volume 1

Part 2

Chapter 6 Biodiversity

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6. Biodiversity

6.1 Introduction

- 6.1.1 This chapter presents the preliminary findings of the Environmental Impact Assessment (EIA) undertaken to date for the Eastern Green Link (EGL) 5 English Onshore Scheme, with respect to biodiversity. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the description of the Project provided in **Volume 1, Part 1, Chapter 4: Description of the Project**.
- 6.1.2 This chapter describes the methodology used, the datasets that have informed the preliminary assessment, current baseline conditions, current environmental measures, and the preliminary biodiversity effects that could result from the English Onshore Scheme during the construction, operation (and maintenance), and decommissioning phases. Specifically, it relates to the English Onshore elements of the Scheme landward of Mean Low Water Springs (MLWS).
- 6.1.3 This chapter should be notably read in conjunction and considered alongside the following technical aspect chapters found in **Volume 1**:
- **Part 2, Chapter 8: Landscape and Visual Amenity** (due to the close association between some landscape receptors and ecological features (habitats / flora) and the potential for overlapping embedded environmental measures);
 - **Part 2, Chapter 9: Water Environment and Chapter 10: Geology and Hydrogeology** (due to the close association between some habitats, flora and fauna, and local hydrology);
 - **Part 2, Chapter 11: Agriculture and Soils** (due to the close association between soil and ecosystem factors);
 - **Part 2, Chapter 13: Noise and Vibration** (due to potential for noise and vibration to adversely affect ecological receptors); and
 - **Part 2, Chapter 14: Air Quality** (in relation to the scope of assessment for the English Onshore Scheme associated with air quality impacts and designated sites for nature conservation); and
 - Relevant offshore chapters relating to the intertidal zone or migratory species that may be present in both onshore and offshore environments are found in **Volume 1**:
 - **Part 3, Chapter 17: Coastal and Marine Physical Processes;**
 - **Part 3, Chapter 18: Intertidal and Subtidal Benthic Ecology;**
 - **Part 3, Chapter 19: Fish and Shellfish; and**
 - **Part 3, Chapter 20: Intertidal and Offshore Ornithology.**

6.1.4 This chapter is supported by the following figures in **Volume 3**:

- **Part 2, Figure 6-1a: Internationally Designated Sites for Nature Conservation (Ramsar / SPA);**
- **Part 2, Figure 6-1b: Internationally Designated Sites for Nature Conservation (SAC);**
- **Part 2, Figure 6-2: National and Local Statutory Designated Sites for Nature Conservation;**
- **Part 2, Figure 6-3: Local Non-Statutory Designated Sites for Nature Conservation; and**
- **Part 2, Figure 6-4: Priority Habitats and Ancient Woodland.**

6.1.5 This chapter is supported by the following appendices in **Volume 2**:

- **Part 1, Appendix 2.C: Habitats Regulations Assessment Screening Report;**
- **Part 2, Appendix 6.A: Summary of EIA Scoping Responses for Biodiversity; and**
- **Part 2, Appendix 6.B: Biodiversity Desk Study.**

Limitations

6.1.6 The information provided in this Preliminary Environmental Information Report (PEIR) is preliminary, the final assessment of any potential significant effects will be reported in the Environmental Statement (ES). This PEIR has been produced to fulfil National Grid Electricity Transmission plc (NGET)'s consultation duties in accordance with Section 42 of the PA 2008 and enable consultees to develop an informed view of any potential significant effects of the English Onshore Scheme.

6.1.7 The assessment within this chapter is based on EGL 5 preliminary desk study analysis and field surveys undertaken to date at the point of writing. The EGL 5 field surveys have consisted principally of preliminary habitat classification and species suitability assessments across approximately 40% of the study area as defined in Section 6.4 of this PEIR for the English Onshore Scheme. As such, it cannot be taken as a complete picture of the potential presence and significance of important ecological features (as defined in Section 6.9 below) that could be affected by the English Onshore Scheme. The majority of detailed baseline surveys are yet to be completed, and a full and final account of the ecological baseline and detailed impact assessment will be presented within the ES. Therefore, this chapter is intended to provide an understanding of ecological information gathered at the time of writing but is purposefully high-level in terms of the assessment of impacts in the absence of full baseline information.

6.1.8 There remains a risk that site access issues or health and safety issues prior to submission of the Development Consent Order (DCO) application prohibit completion of surveys in discrete areas. Where gaps in baseline survey data remain, an alternative survey approach and / or approach to assessment will be discussed with relevant stakeholders. The approach will be designed to ensure that the information and assessments undertaken are robust enough to provide a sufficiently informed view of the potential significant effects of the English Onshore Scheme on biodiversity. This may include, for example, adoption of a "*reasonable worst-case scenario*" and / or application of the precautionary principle as suggested by the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines at paragraph 5.35 (Ref 6.1). Where such

approaches are to be taken, the Applicant would seek to discuss and agree these with relevant stakeholders.

Preliminary significance conclusions

- 6.1.9 As detailed within this chapter, baseline biodiversity data collection is ongoing, and data collected to date is limited. As such, as is typical at this stage of the PEIR / EIA process, there is insufficient information to establish the importance of ecological features and determine those that should be included within the impact assessment. In the absence of a full ecological baseline, it is considered too early at this PEIR stage to make meaningful conclusions with regards to biodiversity effects and their significance for most ecological features without heavy reliance on assumption and / or caveats.
- 6.1.10 Where appropriate and where confidence exists at this PEIR stage, a high-level narrative of anticipated biodiversity effects for only a limited number of ecological features is presented within this chapter (see Section 6.10). A full impact assessment, including appropriate mitigation and compensation proposals, will be presented within the ES.

6.2 Relevant Technical Guidance

- 6.2.1 The legislation and planning policy which has informed the assessment of effects with respect to biodiversity is provided in **Volume 1, Part 1, Chapter 2: Regulatory and Policy Overview**. Relevant technical guidance, specific to biodiversity, that has informed this PEIR and will inform the assessment within the ES is summarised below.

Technical guidance

- 6.2.2 A summary of the technical guidance for biodiversity is given in **Table 6-1**. In relation to specific species or receptors, key guidance associated with impact assessment has been included although a full list of survey guidance is not presented within this PEIR. Those relevant to the survey methods that have informed the baseline data collection within this PEIR are referenced in Section 6.4. All relevant survey guidance will be presented within baseline reports that are to support the ES.

Table 6-1 Technical guidance relevant to the biodiversity assessment

Technical guidance document	Context
General	
Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Third Edition V1.3 (2018, last updated 2024) (Ref 6.1).	Provides guidance relevant to the assessment of potentially significant effects on biodiversity.
CIEEM Guidelines for Preliminary Ecological Appraisal: Second Edition (2017) (Ref 6.2)	Provides guidance relevant to the assessment of potentially significant effects on biodiversity.
BS 42020:2013. Biodiversity: Code of practice for planning and development (Ref 6.3)	British Standard 42020 “gives recommendations and guidance for those in the

planning and development and land use sectors whose work might affect or have implications for the conservation or enhancement of biodiversity. As such it is applicable to professionals working in the fields of ecology, land use planning, land management, architecture, civil engineering, landscape architecture, forestry, arboriculture, surveying, building and construction.” It provides guidance on how to produce ecological information to accompany DCO applications. It recommends that ecological impacts should be assessed and recommendations for mitigation, compensation and enhancement should be made in accordance with the CIEEM Guidelines for Ecological Impact Assessment (Ref 6.1) and provides guidance on the mitigation hierarchy.

Institute of Air Quality Management (IAQM) (2024) Guidance on the assessment of dust from demolition and construction (Ref 6.4) Provides guidance that is relevant to the zone of influence and assessment of potentially significant effects on biodiversity associated with dust.

Key Species / Receptor Specific Guidance

UK Habitat (UKHab) classification guidance (Ref 6.5) Provides guidance on habitat classification.

A method for assessing the ornithological interest of sites for conservation (Ref 6.6) Provides guidance associated with the impact assessment and importance valuation of bird assemblages.

Bird Survey Guidelines for assessing ecological Impacts (Ref 6.7) Provides guidance associated with the impact assessment and importance valuation of bird assemblages.

Bat Surveys for Professional Ecologists, Good Practice Guidelines (Ref 6.8) Provides guidance in relation to impact assessment, habitat suitability, survey methods, survey effort and data interpretation for bats.

Valuing Bats in Ecological Impact Assessment (Ref 6.9) Provides guidance relating to determining the value of a bat assemblage for the purpose of an ecological impact assessment.

Bats and Artificial Lighting in the UK, Guidance Note 08/23 (Ref 6.10) Provides guidance relating to impacts of lighting on bats and advice on appropriate lighting design.

Badger Protection: Best practice guidance for developers, ecologists and planners (England) (Ref 6.11) Provides guidance relating to surveys, impacts, licensing and potential protection measures for badgers.

Technical guidance document	Context
Monitoring the Otter <i>Lutra lutra</i> . Conserving Natura 2000 Rivers Monitoring Series No. 10 (Ref 6.12)	Provides guidance in relation to impact assessment, habitat suitability and survey methods for otter.
The Water Vole Mitigation Handbook (Ref 6.13)	Provides guidance in relation to impact assessment, habitat suitability, survey methods and survey effort for water vole.
Great crested newt mitigation guidelines (Ref 6.14)	Provides guidance in relation to impact assessment, habitat suitability, survey methods, survey effort and data interpretation for great crested newts.
Great crested newt conservation handbook (Ref 6.15)	Provides guidance on the ecology, impacts and appropriate management and restoration practices relating to great crested newts.
UKTAG River Assessment Method. Macrophytes and Phytobenthos (Ref 6.16)	Provides guidance on the Water Framework Directive (WFD) United Kingdom Technical Advisory Group (UKTAG) river LEAFPACS2 survey methods.
Fisheries Technical Manual – riverine habitats (Ref 6.17)	Provides guidance on the restoration of riverine salmon habitats and presents a project management approach to promote the effectiveness of such work.
Freshwater Biology and Ecology Handbook (Ref 6.18)	Provides guidance on invertebrates monitoring and assessment.

6.3 Consultation and Engagement

Overview

- 6.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Section 5.9 of Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**.

Scoping opinion

- 6.3.2 A scoping opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on 13 October 2025. A summary of the relevant responses received in the scoping opinion in relation to biodiversity and confirmation of how these have been addressed within the assessment to date is presented in **Appendix 6.A: Summary of EIA Scoping Response for Biodiversity**.
- 6.3.3 The information provided in this PEIR is preliminary and not all of the scoping opinion comments have been addressed at this stage, however, all comments will be addressed within the ES.

Technical engagement

6.3.4 Technical engagement with consultees in relation to biodiversity is ongoing. A summary of key technical engagement undertaken to date (05 March 2026) is outlined in **Table 6-2**.

Table 6-2 Technical engagement on the environmental aspect assessment

Consultee	Consideration	How addressed in this PEIR
Natural England	<p>Birds – Bird Survey Methodology document issued to Natural England for comment on the 26 January 2026. The document outlines the proposed survey methods and survey effort specifically for the English Onshore Scheme, in addition to data provision from other neighbouring projects (Grimsby to Walpole Project and EGL 3 and EGL 4) and sources.</p> <p>Natural England recommended an increased survey area of 650 m for curlew. This was implemented for surveys from February 2026 onwards.</p> <p>Natural England recommended analysing actual peaks, along with mean peaks, for intertidal surveys. This will be reported within the baseline reports and ES.</p> <p>Natural England recommended nocturnal surveys for areas of permanent habitat loss. Discussions are ongoing regarding nocturnal surveys.</p>	This PEIR outlines bird survey effort to date and further proposed surveys (see Table 6-10).
Natural England	<p>Natterjack toad – Email correspondence between the Applicant and Saltfleetby and Theddlethorpe Dunes SAC / NNR Natural England officers occurred in November and December 2025.</p> <p>The local distribution of Natterjack toad and the severance of habitat connectivity between known populations and the draft Order Limits was discussed. The local distribution of natterjack toad is unlikely to extend into the draft Order Limits due to scrub encroachment and urban development as well as a lack of suitable arable field margins and predator free pools across approximately 8.3 km of arable landscape.</p>	This PEIR gives a summary of why impacts to Natterjack toad are unlikely based on negligible habitat suitability within the draft Order Limits and habitat severance from the local population.

6.4 Data Gathering Methodology

Study areas

- 6.4.1 The study area encompasses the area over which all desk-based data was gathered to inform the biodiversity assessment presented in this chapter. Due to the presence of multiple ecological features¹ and many potential effects, the level and type of data collection varies across the study area. The study area comprises:
- Land within the draft Order Limits (as shown on **Volume 3, Part 1, Figure 1-1: Project Location and draft Order Limits** and **Volume 3, Part 1, Figure 1-2: English Onshore Scheme draft Order Limits**);
 - The desk study areas (known as “areas of search”) for sites designated for their nature conservation interest at the international, national and local levels (as described in **Table 6-4**);
 - The area of search for legally protected and notable ecological features; and
 - The area of search for any legally controlled species (i.e., invasive non-native species (INNS)).
- 6.4.2 The extent of the desk study areas of search was determined based on best practice guidance (**Table 6-1**, Ref 6.1 and Ref 6.3) and a high-level overview of the types of ecological features present and the potential effects that could occur. The study area was defined on a precautionary basis to ensure that the Zone of Influence (Zol) relevant to all ecological features were covered during baseline data collection activities. Zol’s are the areas within which a potentially significant effect associated with the English Onshore Scheme may be identified for a particular ecological feature and vary from feature to feature (Zol for the purpose of the impact assessment are detailed further within Section 6.7).
- 6.4.3 Within the draft Order Limits, consideration has been given to the indicative footprint of the English Onshore Scheme. The English Onshore Scheme is described in detail within **Volume 1, Part 1, Chapter 4: Description of the Project**.
- 6.4.4 The study area will be reviewed and amended in response to such matters as refinement of the English Onshore Schemes’ design, the identification of additional impact pathways and where appropriate in response to feedback from consultation, to ensure that there is sufficient data on which to conduct the assessment. These refinements are expected to reduce the extent of the study area as the English Onshore Scheme progresses, whilst still reflecting recognised good practice. A full and final account of the study area will be presented within the ES.

Desk study

- 6.4.5 An initial desk study was carried out in August 2025 to inform the scoping stage, when the study area was based on the English Onshore Scheme Scoping Boundary. The English Onshore Scheme’s design has since been developed and refined, with the draft Order Limits replacing the English Onshore Scheme Scoping Boundary. An updated data

¹ The Chartered Institute for Ecology and Environmental Management (CIEEM) refer to biodiversity receptors within technical guidance (Ref 6.1) as ‘ecological features’. This term is used throughout this chapter.

gathering exercise was undertaken in December 2025 to reflect this change and inform this PEIR. This involved obtaining information relating to relevant statutory and non-statutory sites designated for nature conservation, Habitats of Principal Importance (HPIs), Species of Principal Importance (SPIs)², legally protected and controlled species and other conservation notable habitats or species³ that have been recorded within the relevant areas of search.

6.4.6 The desk study areas of search are defined as the following:

- International designated sites: draft Order Limits plus 10 km:
 - Extending to 30 km for bats; and
 - Extended⁴ as required to include those with migratory and / or aquatic qualifying species that have a relevant hydrological connection.
- National and local statutory designated sites: draft Order Limits plus 2 km;
- Non-statutory designated sites: draft Order Limits plus 2 km; and
- Protected, notable and controlled species records: draft Order Limits plus 2 km (approximately, and from the past 10 years only⁵).

6.4.7 An arboricultural desk study has been undertaken of the draft Order Limits using publicly accessible data including the Woodland Trust's Ancient Tree Inventory (Ref 6.21), Multi-Agency Geographic Information for the Countryside (MAGIC) maps (Ref 6.22) and local authority records from East Lindsey District Council (Ref 6.23). The desk study has recorded trees known to be within the following classifications:

- Ancient, veteran and notable trees;
- Ancient woodland;
- Traditional orchards;
- Tree preservation order (TPO); and
- Conservation area.

² As defined under the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 6.20).

³ A conservation notable species is one that has some form of conservation designation (for example it is present on a red list) but has no specific legal protection.

⁴ Extension distance of the study area is dependent on a variety of factors, including the type of hydrological connection and migration distance/home range of the qualifying species. The study area for this criterion is being reviewed by the Applicant and may be defined on a species-by-species or site-by-site basis. A full justification and explanation will be presented in the ES.

⁵ Protected, notable and controlled species records which are less than 10 years old were selected as this is deemed to be a range of dates that would accurately represent the lifespan of species present within the purchased ecology survey records. This is reflected in the fact the data from 10 years or the entire data set has the same species present and differs in the total count of records by forty-six records. Forty-one records were confined to bird species, three to butterflies, one to Chinese muntjac *Muntiacus reevesi* and one to European eel *Anguilla anguilla*. The 10 years of data are therefore a robust sample of the species records.

6.4.8 A summary of the organisations that have supplied data, together with the nature of that data is outlined in **Table 6-3** below.

Table 6-3 Data sources used to inform the biodiversity assessment desk study

Organisation	Data source	Data provided
Multi Agency Geographic Information for the Countryside (MAGIC) (Ref 6.22)	https://magic.defra.gov.uk/	Statutory sites, HPIs and SPIs, Ancient Woodland Inventory ⁶ , network enhancement and expansion zones, habitat waterbody locations and European Protected Species (EPS) mitigation and class licence and survey data.
Google Earth Pro (Ref 6.24)	A review of aerial photography.	Indicative habitat data and waterbody locations.
Remote sensing habitat data	Two sources including BlueSky National Tree Map (Ref 6.25) and Corrine Land Cover Inventory 2018 (Ref 6.26)	High level habitat mapping using aerial imagery datasets, categorised broadly into UKHab classifications. Used as an early stage indicative habitat map dataset.
Greater Lincolnshire Nature Partnership (GLNP) (Ref 6.27)	https://search.glnp.org.uk/	All non-statutory designated sites, protected and notable and legally controlled species records.
Environment Agency (Ref 6.28)	https://environment.data.gov.uk/catchment-planning/	Water Framework Directive (WFD) waterbody designation.
Environment Agency (Ref 6.29)	Ecology and Fish Data Explorer https://environment.data.gov.uk/ecology/explorer/	Fish, aquatic macroinvertebrate and macrophyte records.
Environment Agency / The Rivers Trust (TRT) / AMBER International (Adaptive Management of Barriers in European Rivers)	Environment Agency - Asset Management (Ref 6.30). https://environment.data.gov.uk/asset-management/index.html TRT (Ref 6.31) - https://river-obstacles-theriverstrust.hub.arcgis.com/ AMBER International (Ref 6.32) - https://amber.international/european-barrier-atlas/	Location of barriers and / or obstacles to fish and eel passage.

⁶ Areas of Ancient Woodland are listed under the Ancient Woodland Inventory (AWI).

Organisation	Data source	Data provided
Natural England	Priority River Habitat - Rivers (England) (Ref 6.33): Priority River Habitat - Rivers (England) Natural England Open Data Geoportal	Location of watercourses identified as Priority Habitat.
Natural England	Chalk Rivers (England): Chalk Rivers (England) (Ref 6.34) Natural England Open Data Geoportal	Location of chalk streams within the draft Order Limits
British Trust for Ornithology (BTO)	Wetland Bird Survey (WeBS) data (Ref 6.35)	WeBS data requested for relevant sectors across the Project, including the landfall. Data not yet received but will be included within the final ES.

Survey work – English Onshore Scheme

6.4.9 The following sections detail the survey work undertaken to date, to inform the English Onshore Scheme and this PEIR. This survey work commenced in October 2025 and is currently ongoing. Further baseline surveys for the English Onshore Scheme to inform the ES, including the applicable survey areas with relevance to the draft Order Limits, are detailed in Section 6.11.

Preliminary Ecological Appraisal (PEA)

6.4.10 Habitat mapping (in accordance with UKHab guidance (Ref 6.5)) and protected species assessments have been undertaken, to date, as part of PEA walkover surveys. These surveys have been undertaken within areas which have been granted land access permission to date. Prior to the release of the draft Order Limits and in the absence of such a boundary, PEA walkover surveys were undertaken along an indicative route alignment of the cable provided by the appointed Front End Engineering Designers (FEED) in 2025. The survey area was represented by the indicative route alignment, plus a buffer of 125 m either side, creating an approximately 250 m wide assessment corridor. This was extended to an additional 250 m either side for assessment relating to great crested newt (GCN) *Triturus cristatus* (creating an approximately 500 m wide corridor). Similar buffer distances were also applied to the siting zone for the permanent infrastructure at the EGL 5 converter station northeast of Bilsby and the landfall near Anderby Creek.

6.4.11 The PEA walkover surveys involved habitat mapping (UKHab), alongside condition assessments of these habitats relating to Biodiversity Net Gain (BNG), and aquatic habitat assessments. These surveys were combined with protected species habitat suitability assessments, including consideration for the following species:

- Birds;

- Bats (including Daytime Bat Walkover (DBW), Ground Level Tree Assessments (GLTA) and Preliminary Roost Assessment (PRA)⁷);
- Badgers *Meles meles*;
- Otter *Lutra lutra*;
- Water vole *Arvicola amphibius*;
- Great crested newt and other amphibians (such as common toad *Bufo bufo*, a SPI);
- Reptiles;
- Other notable species such as brown hare *Lepus europaeus* or hedgehog *Erinaceus europaeus*;
- Aquatic species (including fish); and
- Notable terrestrial or aquatic plant species (including INNS).

Bird Surveys

- 6.4.12 Three transects were designed to gain full survey coverage of the draft Order Limits and commenced in January 2026. These will be undertaken monthly until December 2026 to collect 12 months of terrestrial bird data. Survey effort will be increase in the breeding season with twice-monthly surveys in April, May and June. These terrestrial bird surveys will be supplemented by data collected for the Grimsby to Walpole Project where the Projects overlap.
- 6.4.13 At the landfall at Andery Creek, a combination of existing data from intertidal bird surveys undertaken for the EGL 3 and EGL 4 Projects, and additional surveys for the English Onshore Scheme will be used to ensure 24 months of survey data will be collected at Anderby Creek.

Aquatic Ecology Surveys

- 6.4.14 Aquatic ecology reconnaissance surveys have been undertaken, to date, as part of preliminary aquatic surveys on WFD recognised Main Rivers as well as ordinary watercourses (OW). These surveys have been undertaken across approximately 80% of the draft Order Limits which represents those areas which had been granted land access permission at the time of survey. Prior to the release of the draft Order Limits and in the absence of such a boundary, the aquatic ecology site reconnaissance surveys were undertaken within the English Onshore Scheme EIA Scoping Boundary along an indicative route alignment of the cable provided by the appointed FEED in 2025. The survey area was represented by the indicative route alignment, plus a buffer of 250 m either side, creating an approximately 500 m wide assessment corridor.
- 6.4.15 The aquatic ecology reconnaissance site surveys were part of an initial assessment used to identify and map aquatic and riparian habitats, broadly assess baseline conditions, and determine the potential to support protected species, and the presence of environmental pressures and aquatic invasive non-native animal and plant species. As a result, these surveys set out to:
- Assess the suitability of habitats for the presence of:

⁷ Survey methodology terminology from good practice guidelines for bats (Ref 6.8).

- Macroinvertebrates;
- Fish;
- Macrophytes; and
- Phytobenthos.

- 6.4.16 The outcomes of the aquatic ecology reconnaissance site surveys will also be used to:
- Determine suitable survey methods (in accordance with UK best practice guidance) to be deployed between March and November 2026;
 - Plan specific surveys to inform the ES impact assessment; and
 - Identify Health and Safety considerations i.e., ingress and egress.

Arboricultural Surveys

- 6.4.17 A full data suite is not yet available from arboricultural surveys due to the early stage of the Project. The first arboricultural surveys commenced in January 2026 based on the identified study area for draft Order Limits with the remaining arboricultural surveys expected to be completed by September 2026. The arboricultural surveys are being undertaken to capture data for trees falling into the categories below and this data will be used to inform the ES:
- Woodlands;
 - Unverified veteran trees;
 - TPO trees; and
 - Noteworthy trees and groups (noteworthy trees are defined as Category A and B trees as set out in Table 1 of BS 5837:2012 (Ref 6.36).

Survey work – Eastern Green Link 3 and 4 and Grimsby to Walpole projects

- 6.4.18 The biodiversity baseline is also informed by data collected by the Applicant's neighbouring projects; Grimsby to Walpole project Section 3 and 4, and the EGL 3 and EGL 4 projects.
- 6.4.19 The Grimsby to Walpole project includes the Lincolnshire Connection Substation B (LCS-B) which is being constructed as part of that project but is the transmission connection point for the HVAC cable which will be installed west of the EGL 5 converter station. The EGL 3 and EGL 4 projects have a similar landfall at Anderby Creek. In both cases there is existing ecological survey data which is geographically relevant due to similarity and overlap with the EGL 5 project draft Order Limits and associated Zol.
- 6.4.20 It has been agreed that both neighbouring projects (Grimsby to Walpole, EGL 3 and EGL 4) will share ecological survey data with the EGL 5 Project. This provides a cost benefit to the Applicant (to avoid duplication of surveys in each locality and by using collected data over a longer period of time) but also avoids potential impacts on the species being surveyed from duplication of survey efforts.
- 6.4.21 To date, this has involved a review of ecological survey data provided in the Grimsby to Walpole PEIR (Ref 6.37 and 6.38) and ad hoc data sharing with EGL 3 and EGL 4 when data has become available following appropriate quality control and analysis. The data

received to date (dating from 2024 to present) which is geographically relevant to the English Onshore Scheme has been included in the current baseline section below alongside the data obtained specifically for the English Onshore Scheme.

6.5 Overall Baseline

Current baseline

Designated Sites for Nature Conservation

Statutory Designated Sites – International

- 6.5.1 A total of five internationally designated sites for nature conservation have been identified within the 10 km study area. This is comprised of two Special Areas of Conservation (SAC), two Special Protection Areas (SPA) and one Ramsar site.
- 6.5.2 The closest of these is the Greater Wash SPA which is located partially within the draft Order Limits. This designated site is designated for a range of migratory and breeding wetland birds.
- 6.5.3 There are no internationally designated sites within 30 km designated for bats. There are no internationally designated sites which are hydrologically connected to the draft Order Limits and considered within Zols for the English Onshore Scheme⁸.
- 6.5.4 As detailed in **Table 6-2**, the scoping response from Natural England highlighted that the Humber Estuary SAC was not included in the Scoping Report, however, the Humber Estuary SAC boundary does not extend as far south as that of the Humber Estuary SPA and Ramsar site boundary and as such is more than 10 km from the draft Order Limits and is therefore not assessed within this PEIR.
- 6.5.5 Full details of the internationally designated sites are provided in **Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report** and are displayed on **Volume 3, Part 2, Figure 6-1**.

Statutory Designated Sites – Local and National

- 6.5.6 A total of two nationally designated sites for nature conservation have been identified within the 2 km study area. These comprise two Sites of Special Scientific Interest (SSSI). There were no locally designated sites within the 2 km study area. Full details of these designated sites are provided in **Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report** and displayed on **Volume 3, Part 2, Figure 6-2**.
- 6.5.7 The closest of these is Sea Bank Clay Pits SSSI, which is located 0.53 km north of the draft Order Limits. This designated site is a series of flooded clay workings supporting

⁸ The assessment of potential impacts to the marine environments associated with the Humber Estuary SAC, The Wash & Norfolk Coast SAC, Inner Dowsing, Race Bank and North Ridge SAC, The Wash Ramsar, and Gibraltar Point Ramsar are detailed where appropriate within **Volume 1, Part 3, Chapter 17: Coastal and Marine Physical Processes, Volume 1, Part 3, Chapter 18: Intertidal and Subtidal Benthic Ecology, Volume 1, Part 3, Chapter 19: Fish and Shellfish, Volume 1, Part 3, Chapter 20: Intertidal and Offshore Ornithology, and Volume 1, Part 3, Chapter 21: Marine Mammals and Marine Reptiles**.

uncommon aquatic plant communities characteristic of brackish, eutrophic water, as well as extensive reedbeds and rich marginal wetland flora with a rich aquatic invertebrate fauna. The pits are important for breeding, wintering and passage birds.

Non-statutory Designated Sites

- 6.5.8 A total of 13 non-statutory designated sites for nature conservation have been identified within the 2 km study area. These included 9 Local Wildlife Sites (LWS), one Roadside Nature Reserve (RNR) and three Lincolnshire Wildlife Trust (LWT) reserves. Full details of these designated sites are provided in **Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report** and displayed in **Volume 3, Part 2, Figure 6-3**.
- 6.5.9 A total of four non-statutory designated sites are located within the draft Order Limits, designated for a range of habitats (including botanically rich grassland, reedbed, ditches and ponds) and species (birds, fish and invertebrates) comprising the following (north to south):
- Huttoft Dykes Green Lane LWS;
 - Huttoft RNR;
 - Marsh Yard to Anderby Creek Dunes LWS; and
 - Moggs Eye Sea Bank Ponds LWS.

Habitats and Species

- 6.5.10 **Table 6-4** below provides a summary of desk study and field survey results to date, relating to protected and / or notable species relevant to the English Onshore Scheme. A large number of protected species records within the past 10 years were returned from the 2 km data search.
- 6.5.11 A summary of protected species records returned from the data search is provided in **Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report**. Distance and direction for records has been calculated approximately from the draft Order Limits, using grid references provided by local record centres. In some cases, these grid references cover a large area (for example 1 km or 10 km grid square), therefore, the distance measurement is an approximation and should be considered as such.

Table 6-4 Summary of protected and / or notable habitats and species

Receptor	Desk study	Field survey
Habitats	<p>The following HPI are potentially located within the draft Order Limits:</p> <ul style="list-style-type: none"> ● Coastal and floodplain grazing marsh; ● Lowland calcareous grassland; ● Ponds; ● Rivers; and ● Coastal sand dunes. <p>In addition to the above, the following additional HPIs were also present within 2 km:</p> <ul style="list-style-type: none"> ● Reedbed; ● Deciduous woodland (which may qualify as Lowland mixed deciduous woodland HPI); ● Traditional orchard; ● Lakes; and ● Lowland meadow. <p>Two parcels of Ancient Woodland are also located within the 2 km study area. None of these areas of habitat are located within the draft Order Limits.</p> <p>The desk study identified approximately 37 ponds / lakes within 250 m of the draft Order Limits but only eight are within the draft Order Limits.</p> <p>The desk study has identified 111 watercourses, 90 of these watercourses have been identified during the desk-based</p>	<p>The majority of the landscape is arable cropland, interspersed with other habitats such as modified grassland and other neutral grassland with small areas of scrub and woodland at field boundaries.</p> <p>Field boundaries largely comprise ditches and hedgerows but there are two larger drains (Wold Grift drain and Boygrift drain) which separate fields within the centre and west of the draft Order Limits.</p> <p>Further field surveys are anticipated to potentially identify additional smaller areas of habitats such as those HPI identified through the desk study such as reedbed, lowland calcareous grassland and lowland meadow.</p> <p>Arboricultural Surveys are ongoing, currently 156 individual trees, 255 linear tree features and 70 groups of trees have been identified, none of the trees identified at this stage are considered veteran or ancient.</p>

Receptor	Desk study	Field survey
Birds (wintering, breeding passage and intertidal)	<p>assessment as ditches, two chalk streams and two statutory main rivers, with the remaining 17 sitting outside these categories.</p> <p>The arboricultural desk study identified one group TPO within the draft Order Limits and one individual TPO within the relevant buffer zone of the draft Order Limits.</p> <p>Records for 81 Schedule 1⁹ bird species were provided within 2 km of the English Onshore Scheme Scoping Boundary; 27 of which have the potential to breed¹⁰. The species with the highest potential to breed based on known distribution and habitat suitability are:</p> <ul style="list-style-type: none"> • Barn owl <i>Tyto alba</i>; • Marsh harrier <i>Circus aeruginosus</i>; • Hobby <i>Falco Subbuteo</i>; • Kingfisher <i>Alcedo atthis</i>; and • Woodlark <i>Lullula arborea</i>. <p>Large numbers of records of SPA / Ramsar¹¹ qualifying species were returned, which included (but not limited to) the following qualifying species (full list in Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report):</p>	<p>Intertidal bird surveys from a Vantage Point location (TF 546 775) at Anderby Creek undertaken for the EGL 3 and EGL 4 projects shows that the landfall area supports a range of birds including waders, geese, ducks, other waterbirds and birds of prey. Species recorded (which were focused on waterbirds and raptors for the autumn / winter period) included the following SPA / Ramsar qualifying and Schedule 1 species:¹²:</p> <ul style="list-style-type: none"> • Golden plover <i>Pluvialis apricaria</i>; • Knot <i>Calidris canutus islandica</i>; • Marsh harrier <i>Circus Aeruginosus</i>; • Redshank <i>Tringa Totanus</i>;

⁹ Schedule 1 bird species are afforded additional legal protection under the Wildlife & Countryside Act 1981 (as amended).

¹⁰ Based upon known breeding distribution within England

¹¹ Listed on any SPA and/or Ramsar citation within 10 km i.e., Greater Wash SPA and Wash SPA & Ramsar

¹² Excluding species only recorded on the sea, beyond the intertidal zone down to mean low water springs. However, including species visible in fields immediately inland from the VP.

Receptor	Desk study	Field survey
	<ul style="list-style-type: none"> • Black-tailed godwit <i>Limosa limosa</i>; • Common scoter <i>Melanitta nigra</i>; • Little gull <i>Hydrocoloeus minutus</i>; • Little tern <i>Sternula albifrons</i>; • Ruff <i>Philomachus pugnax</i>; and • Red-throated diver <i>Gavia stellata</i>. 	<ul style="list-style-type: none"> • Whimbrel <i>Numenius Phaeopus</i>; and • Sandwich tern <i>Sterna Sandvicensis</i>. <p>Terrestrial bird surveys for the English Onshore Scheme commenced in January 2026 and will continue through to December 2026.</p> <p>Intertidal bird surveys for the EGL 3 & EGL 4 Projects concluded at Anderby creek in December 2025, following 12 months of bird surveys. Intertidal bird surveys for the English Onshore Scheme commenced in January 2026 and will continue until December 2026 to ensure 24 months of data is collected at Anderby creek.</p> <p>Barn owl boxes and other artificial bird boxes have been identified along the English Onshore Scheme. The use of these has not been investigated at this stage but will be surveyed where there is potential for disturbance or displacement impacts.</p>
Bats	<p>There are no national statutory sites (e.g., SSSIs) designated for bats within 2 km and no international SAC sites designated for bats within 30 km.</p> <p>There were no EPS licence applications within 2 km of the draft Order Limits.</p>	<p>Bat surveys including DBW, GLTA and PRA (Ref 6.8) have been carried out to date.</p> <p>Trees have been recorded with potential roost features (one tree assessed as</p>

Receptor	Desk study	Field survey
	<p>Records for five species of bat, some of which were for roosts, were returned within 2 km, comprising:</p> <ul style="list-style-type: none"> • Thirteen field observations of common pipistrelle <i>Pipistrellus pipistrellus</i> with the closest being 0.27 km south of the draft Order Limits. • One field observation of soprano pipistrelle <i>Pipistrellus pygmaeus</i> with the closest being 0.27 km south of the draft Order Limits. • One record for a natterer's bat <i>Myotis nattereri</i> roost with the closest being 0.30 km southeast of the draft Order Limits. • Two records for brown long-eared bat <i>Plecotus auritus</i> roosts with the closest being 0.99 km east of the draft Order Limits. <p>There were also five field observation records for pipistrelle bat species <i>Pipistrellus spp.</i> with the closest being 0.4 km northwest of the draft Order Limits.</p>	<p>potential roosting feature – individual (PRF-I)¹³ and no trees assessed as potential roosting feature – multiple (PRF-M)¹⁴ (Ref 6.8)) to date, and one tree as further assessment required (FAR) to determine their roosting suitability.</p> <p>In addition, one building has been recorded as having Low roost suitability to support bat roosts (with further buildings across the study area to be assessed to establish their roosting suitability).</p> <p>Habitats across the English Onshore Scheme are considered to represent primarily Negligible and Low suitability habitats for foraging and commuting bats (in accordance with definitions detailed within good practice (Ref 6.8)).</p> <p>Some isolated areas may qualify as Moderate suitability where the density of linear connective corridors increases. However, as is the case across the English Onshore Scheme, the habitats largely comprise open agricultural (arable) fields, with boundary features that are most commonly managed</p>

¹³ Suitable for individual or very small numbers of bats either due to size or lack of suitable surrounding habitats

¹⁴ Suitable for multiple bats and may therefore be used by a maternity colony.

Receptor	Desk study	Field survey
		<p>ditches. There are occasional hedgerows across the landscape which provide connectivity to the wider landscape including areas of woodland habitat. Therefore, contextually for a Lincolnshire landscape, the habitats are likely to represent Low to Moderate suitability for the local bat population.</p> <p>Bat activity surveys for Grimsby to Walpole Section 3 have returned the following records:</p> <ul style="list-style-type: none"> • Habitats associated with LCS-B had activity from <i>Myotis</i> sp., common pipistrelle, soprano pipistrelle, Nathusius pipistrelle, barbastelle, brown long-eared, noctule bat, Leisler's (<i>Nyctalus leisleri</i>) and Daubenton's bat. • Habitats associated with the overhead line which is near to the English Onshore Scheme access road between the A1104 and LCS-B had activity from common pipistrelle, soprano pipistrelle, <i>Nyctalus</i> sp., Nathusius pipistrelle, Lesiler's bat, <i>Myotis</i> sp., brown long-eared and barbastelle. <p>In both cases these findings indicated that hedgerows and woodland edges in these two locations are being utilised by foraging and commuting bats.</p>

Receptor	Desk study	Field survey
Badgers	A total of 104 records of badger field observations and setts have been recorded within 2 km of the draft Order Limits, with the closest being within 6 m of the draft Order Limits.	<p>To date, a total of 16 potential badger setts have been recorded during the PEA walkover surveys for EGL 5 but only 11 of these are within 30 m of the draft Order Limits.</p> <p>A total of three candidate main setts have been recorded to date, however, only one of these is within 30 m of the draft Order Limits.</p> <p>Further surveys and assessments are required to confirm the use of these features by badger and, where confirmed as a sett, establish the type and level of use of the sett.</p> <p>Field surveys from EGL 3 and EGL 4 and Grimsby to Walpole Section 3 and 4 are consistent with the findings of the English Onshore Scheme surveys. The same distribution of setts has been recorded in areas which have been visited for EGL 5 and where the survey boundary overlaps with that of EGL 3 and EGL 4 and Grimsby to Walpole RLB. The location of badger setts will be included within a confidential appendix to the ES.</p>
Otter	A total of four field observations of otter have been recorded with the closest being within 0.22 km of the draft Order Limits.	The watercourses, drains, ditches and waterbodies within the 250 m of the draft Order Limits which have been visited as part of the EGL 5 PEA walkover surveys have had negligible and low potential to support otter for foraging, commuting

Receptor	Desk study	Field survey
Water vole	<p>A total of 94 field observations of water vole have been recorded within 2 km of the draft Order Limits, with the closest records within the draft Order Limits.</p> <p>Mink <i>Neovison vison</i> (a key predator of water vole) were recorded 0.24 km north of the draft Order Limits.</p>	<p>and resting. Nonetheless, otter are likely to be present and may opportunistically forage and commute through the study area and draft Order Limits.</p> <p>Two potential otter holts / resting places have been identified approximately 160 m west of the draft Order Limits. The remainder of habitats surveyed to date, which have included predominantly arable habitats which have had limited secure and sheltered resting places. However, areas of denser vegetation cover and other features may provide sheltering opportunities.</p> <p>Further survey and assessment of water courses and ditches is required in relation to otter.</p> <p>Watercourses, drains and ditches that have been surveyed (for suitability only) to date include a range of habitat suitability for supporting water vole. The majority of the linear features are agricultural drains or otherwise modified watercourses.</p> <p>The English Onshore Scheme PEA walkover surveys have visited approximately 30% of the watercourses, drains and ditches within 250 m of the draft Order Limits. These surveys have identified habitat with good, poor and negligible suitability for water vole but no</p>

Receptor	Desk study	Field survey
Amphibians	<p>Records for three species of amphibian were returned from within 2 km of the draft Order Limits, including:</p> <ul style="list-style-type: none"> • Common frog <i>Rana temporaria</i> – 0.67 km northeast of the draft Order Limits; • Common toad – 0.65 km northeast of the draft Order Limits; and • Smooth newt <i>Lissotriton vulgaris</i> – 0.65 km southeast of the draft Order Limits. 	<p>habitat considered optimal to support water vole has been identified to date.</p> <p>EGL 3 and EGL 4 water vole habitat suitability surveys have been completed for an additional 35% of habitats within the English Onshore Scheme draft Order Limits. These surveys have identified habitat with good, poor and negligible suitability for water vole but no optimal habitats. The results of these surveys are currently under review for inclusion in the main ES and to inform further presence / likely absence surveys.</p> <p>Field surveys from Grimsby to Walpole Section 3 have found evidence of water vole presence on the Wold Grift Drain. These watercourse habitats are within 50 m of the draft Order Limits and are therefore relevant to EGL 5.</p> <p>The habitats crossed by the underground cable routes of the English Onshore Scheme comprise predominantly open arable land (approximately 90% of the draft Order Limits), which is sub-optimal for GCN. The arable fields are typically bordered by a network of drainage ditches, drains and hedgerows.</p>

Receptor	Desk study	Field survey
	<p>The abundance of ponds / standing waterbodies (potential GCN breeding and / or aquatic habitat) along the length of the English Onshore Scheme is relatively low, whilst ditches represent the primary habitat found along most field margins. These habitats could potentially be suitable for GCN breeding meaning that GCN will be considered for field survey despite a lack of GCN records.</p> <p>Approximately 37 ponds have been identified within 250 m of the draft Order Limits (from a preliminary review of aerial imagery and remote sensing habitat data) with a relatively high density of ditches, which form the majority of field boundary features.</p> <p>The desk study did not identify any records of natterjack toad within 2 km of the draft Order Limits. Engagement with Natural England officers at Saltfleetby-Theddlethorpe Dune SAC / NNR provided details on the current local distribution of this species in east Lincolnshire based on its habitat requirements and potential dispersal barriers. A review of aerial imagery and remote sensing habitat data concluded that there is approximately 8.4 km of arable cropland or 10 km of urban development along the Lincolnshire coast which collectively separates the Site from closest Natterjack species population. There is a lack of suitable dune habitat with limited scrub encroachment through Mablethorpe, Trusthorpe, Sutton-on-Sea and Sandilands which has severed the connectivity of habitats between the Saltfleetby-Theddlethorpe Dune NNR and the draft Order Limits and therefore limits the expansion of the species range southwards along the coast. The extent of arable habitats will have a similar effect on the species distribution as cropland within at least 1 km of the Site lacks the grazed grassland habitats with ephemeral waterbodies free of predators that could support the species away from dune habitats. Finally, dune habitats within 250 m of the draft</p>	<p>GCN habitat suitability index (HSI) surveys have been completed for four ponds and an assessment of ditch suitability has been completed for 10 ditches. These surveys found that there were the following number of ponds and ditches within each suitability category:</p> <ul style="list-style-type: none"> ● Good: one pond; ● Average: one ditch; ● Below average: nine ditches; and ● Poor: three ponds. <p>There have been no GCN presence / likely absence surveys completed on the English Onshore Scheme to date. It is anticipated that GCN eDNA surveys will be completed for relevant ponds / standing waterbodies / ditches between in April to June 2026.</p> <p>GCN eDNA surveys completed for Grimsby to Walpole Section 3 identified one pond within 500 m of the English Onshore Scheme draft Order Limits that had GCN present. This pond was located near St Margaret's Church in Saleby and is connected to the English Onshore Scheme draft Order Limits by hedgerows and woodland. GCN could therefore be present within the English Onshore Scheme draft Order Limits.</p>

Receptor	Desk study	Field survey
	<p>Order Limits have extensive scrub encroachment making them suboptimal for natterjack toad and there are only three ponds within 500 m of that suboptimal dune habitat.</p>	<p>No incidental sightings of any other amphibian species have been recorded to date. Parts of the draft Order Limits provide suitable habitat to support common frog, common toad and smooth newt. These habitats include field margins comprising longer and more varied vegetation including ditch and hedgerow boundaries.</p> <p>Field surveys to date have concluded that dunes and grazed grassland habitats with ephemeral waterbodies that could support natterjack toad are not present. This is consistent with the review of suitable habitat completed for the desk study.</p> <p>From surveys undertaken to date, potential sheltering habitat for amphibians is relatively localised and not extensive in size.</p>
Reptiles	<p>Records for two species of reptile were returned from the data search:</p> <ul style="list-style-type: none"> • Common lizard <i>Zootoca vivipara</i> – 6 m south of the draft Order Limits; and • Grass snake <i>Natrix helvetica</i> – 0.22 km northeast of the draft Order Limits. 	<p>No incidental sightings of reptiles have been recorded to date. Parts of the draft Order Limits provide suitable habitat for reptile species such as field margins comprising longer and more varied vegetation including ditch and hedgerow boundaries. From surveys undertaken to date, potential sheltering habitat for reptiles is relatively localised and not extensive in size.</p>

Receptor	Desk study	Field survey
Brown hare	Brown hare have been recorded 0.82 km south of the draft Order Limits.	Brown hare have been recorded in fields across the draft Order Limits. The habitats across the draft Order Limits are largely agricultural (including arable fields), which provide suitable habitat to support this species including open farmland as well as field margins comprising longer and more varied vegetation including hedgerow boundaries.
Hedgehog	Hedgehog have been recorded 0.08 km south of the draft Order Limits.	No incidental sightings of hedgehog have been recorded to date, however some of the habitats within the draft Order Limits provide suitable habitat to support this species, such as field margins comprising longer and more varied vegetation including ditch and hedgerow boundaries.
Terrestrial invertebrates	Records for a total of seven species of invertebrates classed as SPI were returned from the data search, none of which were located within the draft Order Limits.	No incidental sightings of notable invertebrates have been recorded to date; however, parts of the landscape provide suitable habitat to support a range of invertebrates including fields and boundaries comprising more varied vegetation structure and floral species and limited areas of woodland.
Fish	Twenty-four records for European eel were provided from the data search by GLNP and one record from the EA Ecology and Fish Data Explorer (Ref 6.29), with the closest located within the draft Order Limits.	Habitats suitable for a variety of fish species, including notable migratory species, exist within the draft Order Limits. These include Main Rivers, drains and minor watercourses, in addition to potential presence

Receptor	Desk study	Field survey
Aquatic macroinvertebrates	Records for a total of three notable species of aquatic macroinvertebrates were returned from the EA Ecology and Fish Data Explorer data searches, located within 2 km of the draft Order Limits.	<p>(depending on habitat suitability and connectivity) within connected ditches. These findings have been collaborated with reconnaissance surveys undertaken to date within the draft Order Limits.</p> <p>Two sites with eDNA baseline data from EGL 3 and EGL 4 were present within 2 km. Records of notable species of fish were provided, including European eel and <i>Barbatula</i> sp. located within 2 km of the draft Order Limits.</p> <p>Similar to fish, habitats suitable for aquatic macroinvertebrate species exist within the draft Order Limits associated with the range of aquatic habitats, including both lotic and lentic habitats. These findings have been collaborated with reconnaissance surveys undertaken to date within the draft Order Limits.</p> <p>Two sites with eDNA baseline data from EGL 3 and EGL 4 were present with 2 km of the EGL5 draft Order Limits. The results of these field surveys has not been reviewed at this time and are therefore not included here.</p>
Macrophytes	No records of notable species of macrophytes were returned from the data searches from either GLNP or the EA Ecology and Fish Data Explorer.	Habitats suitable for aquatic macrophyte species exist within the draft Order Limits, including both lotic and lentic habitats. These findings have been collaborated with reconnaissance

Receptor	Desk study	Field survey
Aquatic non-native animal species.	<p>A number of aquatic non-native species invasive (INNS) were recorded within 2 km of the draft Order Limits including:</p> <ul style="list-style-type: none"> American slipper limpet <i>Crepidula fornicate</i> – 0.46 km northeast; and <i>Crangonyx pseudogracilis / floridanus</i> – 1.5 km north. 	<p>surveys undertaken to date within the draft Order Limits.</p> <p>Habitats suitable for INNS species exist within the draft Order Limits associated with the range of aquatic habitats, including both lotic and lentic habitats. These findings have been collaborated with reconnaissance surveys undertaken to date within the draft Order Limits.</p> <p>No targeted surveys for aquatic INNS have taken place to date.</p>
Notable plant species (including terrestrial and aquatic INNS).	<p>A number of plant INNS were recorded within 2 km of the draft Order Limits including:</p> <ul style="list-style-type: none"> Himalayan balsam <i>Impatiens glandulifera floridanus</i> – 1 km south; and New Zealand pigmyweed <i>Crassula helmsii</i> – distance and direction not provided. 	<p>Field surveys have so far have not recorded terrestrial or aquatic plant INNS within the surveyed area.</p>

Future baseline

- 6.5.12 It is not clear whether any changes would occur to the current baseline in the future in the absence of the English Onshore Scheme. However, as the majority of the draft Order Limits comprises agricultural land, it is reasonable to assume management of such habitat would continue (in the absence of the English Onshore Scheme or other development) and this baseline habitat would remain comparable.
- 6.5.13 Due to climate change, it is possible that in the medium to long term the range of some species may be altered. Any potentially relevant changes to the baseline would be reviewed during the EIA process and, should any likely instances be identified, the implications will be considered on a case-by-case basis within the EIA. A description of the potential future baseline will also be provided in the ES.
- 6.5.14 It is recognised that there are a number of other proposed and committed developments within the surrounding area that could alter the future baseline in the absence of the English Onshore Scheme. The potential for cumulative effects will be considered as part of the ongoing and future EIA and reported in the ES, in accordance with the approach and guidance outlined within **Volume 1, Part 4, Chapter 27: Cumulative Effects**.

6.6 Environmental Measures

- 6.6.1 As set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, the environmental measures are characterised as design measures or control and management measures. A range of environmental measures would be implemented as part of the English Onshore Scheme and will be secured in the DCO as relevant.
- 6.6.2 **Table 6-5** outlines how these design and control measures will influence the biodiversity assessment. In addition to the measures listed in **Table 6-5**, standard mitigation measures, comprising management activities and techniques, would be implemented during the construction of the Project to limit effects through adherence to good site practices and achieving legal compliance. These are listed in **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)** and are not repeated below. Measures listed in **Table 6-5** have been assigned references, for example (B01). These align with the references provided in Table 3-1 of **Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP)** for ease of cross-reference. Any references identified with ID MT (for example, MT01) include measures which may also be listed in other aspects considered as part of this PEIR therefore, have been identified as measures which apply to multiple aspects.
- 6.6.3 In addition, design measures identified through the EIA process have been applied to avoid or reduce potential significant effects. Design measures included that are relevant to biodiversity receptors are included in **Table 6-5** below under Design and Operation and are also included in **Volume 2, Part 1, Appendix 5.A: Outline Register of Design Measures**.
- 6.6.4 Given the current position in relation to baseline data collection, with much of the ecological field surveys to be undertaken during 2026, the environmental measures presented are preliminary only and it is anticipated that further additional measures will be added and / or refinement of existing measures will be made in response to further baseline data collection and consultation.

Table 6-5 Summary of the environment measures

Receptor	Potential changes and effects	Environmental measures	ID reference
Construction			
All ecological receptors	N/A	<p>Prior to construction, a suitably qualified and experienced (or team of suitably qualified and experienced) Ecological Clerk of Works (ECoWs) would be appointed to support the Contractor with implementation of ecological mitigation. The ECoW will:</p> <ul style="list-style-type: none"> a) Provide ecological advice to the Contractor over the entire construction programme, at all times as required. b) Undertake or oversee pre-construction surveys for protected species in the areas affected by the Project. c) Monitor ecological conditions during the construction phase of identified features during construction to identify any changes in the ecological baseline. d) Provide an ecological toolbox talk(s) to site personnel to make them aware of ecological features and information, identify appropriate mitigation to minimise impacts and make site personnel aware of their responsibility with regards to wildlife. e) Monitor the implementation of the mitigation measures during the construction phase to ensure compliance with protected species legislation and commitments within Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP). <p>The ECoW will have previous experience in similar ECoW roles, be approved by the Applicant and be appropriately qualified / experienced for the role.</p>	B01 (C)
All ecological receptors	Potential changes to baseline.	<p>Prior to any works commencing at a given location, a pre-commencement walkover survey would be completed by the ECoW of the works area plus a Zol (as determined by the ECoW) to confirm that baseline conditions remain accurate and relevant.</p>	B02 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
		<p>The Zol is anticipated to be a minimum of 30 m (related to badger setts and excavation works) but would be extended as appropriate to account for relevant ecological features and construction activities at the locality.</p>	
All ecological receptors	Disturbance impacts from noise and vibration.	<p>Best Practicable Means (BPM) as defined under Section 72 of the Control of Pollution Act (CoPA) (1974) (e.g., screening, alternative plant, working methods etc.,) (Ref 6.39) would be employed during the construction phase to reduce noise and vibration nuisance respectively from potentially significant construction activities. Implementation of BPM measures as defined in Section 72 of the CoPA (1974) and Section 79 (9) of the Environmental Protection Act (1990) (Ref 6.40) would include measures such as, but not limited to:</p> <ul style="list-style-type: none"> ● Use of temporary noise screens to disrupt line of sight between activities and receptors. ● Plant to consist of modern, well-maintained machinery fitted with efficient silencers, where possible, designed to minimise noise levels that are generated during operations. ● All compressors and generators to be ‘sound reduced’ models. ● Ancillary pneumatic percussive tools to be fitted with mufflers or suppressers. ● Machines in intermittent use shall be shut down between work or, where this is impracticable, throttled down to a minimum. ● Where practicable, plant with directional noise characteristics to be positioned to minimise noise at nearby properties. ● Static equipment and machinery to be sited as far as is practicable from inhabited buildings. 	MT01 (C)
Designated sites and ancient woodland	Changes in air quality and impacts from nitrogen sensitive receptors	Construction traffic routes would be selected to avoid impacts on communities through routeing plans,	B03 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
	deposition and ammonia concentrations.	restrictions and vehicle choices. Good practice measures outlined within Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP) and Outline Construction Traffic Management Plan (CTMP) would be implemented in order to avoid conflict with local residents, nearby businesses, and other community or tourist users, etc.	
Habitats	Direct habitat loss	<p>The Contractor would retain vegetation where practicable and in accordance with Landscape and Ecological Management Plan (LEMP). Where sections of hedgerow would be removed, and are ecologically worth preserving, they would be removed in sections, retaining intact root balls where possible and maintained accordingly to prolong longevity and viability (for example through watering). This would speed up the restoration process.</p> <p>Where vegetation is lost and trees cannot be replaced in situ due to the restrictions associated with land rights required for operational safety, suitable native planting approved by NGET would be used as a replacement, in accordance with the outline vegetation reinstatement plans included within the LEMP. Where possible, replacement tree planting would be undertaken at the closest suitable location to area of loss.</p>	MT02 (C)
Habitats	Temporary loss of habitats during construction	Areas of temporary habitat loss would be reinstated, wherever practicable, following the completion of construction in each area. Wherever possible, reinstatement would be back to the type and condition of habitat affected (unless specified otherwise in landscape plans, as informed by the BNG assessment (where habitat improvements may be proposed)).	B04 (C)
Habitats	Damage of habitats	Plant, personnel and site traffic would be constrained to a prescribed working corridor through the use of temporary barriers, where practicable, to minimise damage to habitats, encroachment of the working width, potential direct mortality and disturbance of fauna located within and adjacent to the working width.	B05 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
Habitats	Accidental damage of habitats	Where appropriate, stand-off distances around watercourses and other sensitive habitats (such as woodland) would be implemented prior to commencement of works and clearly demarked on site through the use of physical barriers (fencing, tape or similar). A minimum of 10 m would be implemented for watercourses, where practicable. The buffer around trees, woodland and hedgerows would be in accordance with BS 5837:2012: Trees in relation to design, demolition, and construction (Ref 6.36), to take into account root protection zones.	B06 (C)
Habitats	N/A	A representative from the relevant planning authority would be present at the final inspection of reinstatement and mitigation planting prior to handover to the landowner, unless agreed otherwise with the relevant planning authority. Where applicable, remedial measures would be agreed between the Applicant and relevant planning authority during the site visit in accordance with the DCO.	B07 (C)
Habitats	N/A	An approach to monitoring would be designed and adhered to, to be detailed within the LEMP. The results of baseline vegetation surveys and post-construction vegetation (aftercare monitoring) surveys would be provided to the relevant planning authority.	B08 (C)
Habitats - Trees	Damage to retained trees from construction activities.	The Contractor would apply the relevant protective principles set out in British Standard (BS) 5837:2012: Trees in relation to design, demolition, and construction (Ref 6.36), and the UK government 'Standing Advice' for ancient woodland, ancient trees and veteran trees (Ref 6.41). This would be applied to trees within the draft Order Limits, which would be preserved through the construction phase, and to trees outside of the draft Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction. All works to high grade trees, including trees under Tree Preservation Orders and veteran trees, would be undertaken, or supervised by a suitably qualified arboriculturist. Details of such measures would be included in a method statement and within Volume 2, Part 1, Appendix 5.B: Outline Code of Construction Practice (CoCP) .	B09 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
Habitats - woodland, hedgerows and field boundaries	Damage to habitats	Removal of existing wood pole-mounted electricity pylons, which includes 'felling' would be directional and away from woodland, hedgerows and field boundaries.	B10 (C)
Habitats - watercourses	Loss of watercourse habitat during construction	<p>Where watercourses are to be crossed by construction traffic, temporary spanned bridges will be used in preference to culverts.</p> <p>If temporary culverts are required they would be sized appropriately to ensure the watercourse's capacity is maintained and to prevent any local constriction of the flow, and maintain natural riverine connectivity throughout the year, at both high and low flows and kept free from debris. The inlets and outlets of culverts would be designed such that there is no ledge or disruption to flow into or out of the culvert. They would also be designed to maintain natural slope / water velocities and have buried inlet / outlets. For crossings of smaller ditches, these culvert design criteria may be varied, in agreement with the relevant authority (Internal Drainage Board – IDB / Lead Local Flood Authority - LLFA).</p> <p>Once the temporary culvert is installed, the area above the temporary culvert would be backfilled and a temporary haul road constructed over the backfilled area to permit the passage of plant, equipment, materials, and people.</p> <p>Temporary bridges, which are expected to be used to cross EA main rivers / IDB main drains and designated WFD waterbodies, will be designed specifically to consider the span length and the weight and size of plant and equipment that would cross the bridge.</p>	MT03 (C)
Habitats – watercourses	Damage to watercourse habitat during construction	Where appropriate, stand-off distances around watercourses and other sensitive habitats (such as woodland) would be implemented prior to commencement of works and clearly demarked on site through the use of physical barriers (fencing, tape or similar). A minimum of 10 m would be implemented for watercourses.	B06 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
Protected species, likely relevant to bats, great crested newts, badger, otter and water vole	Potential changes to	Given the time that will elapse between the baseline surveys, commencement of construction and the duration of the construction programme, updated species surveys would likely to be required, notably to inform protected species licencing. Depending on the approach to licencing, to be agreed with Natural England, update surveys may be required for roosting bats, GCN, badger, otter and water vole.	B11 (C)
Protected species, likely relevant to bats, great crested newts, badger, otter and water vole	Loss or damage of habitat that supports protected species; disturbance to protected species.	The Contractor would comply with relevant protected species legislation. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the ES and through pre-construction surveys. All applicable works would be undertaken in accordance with the relevant requirements and conditions set out in those licences.	B12 (C)
Species (general) primarily mammals	- Risk of killing or injury due to entrapment of wildlife in voids.	Where possible, excavations would be created and backfilled within the same working day. Where excavations are proposed to be unfilled overnight, and there would be a risk of animal entrapment, the void would be securely covered, or a means of escape would be installed. This would comprise a suitable ramp at no greater than a 45-degree angle, with a textured surface to allow animals to grip. Where linear excavations of over 50 m are anticipated, a means of escape would be provided at, at least, 50 m intervals.	B13 (C)
Species including amphibians, reptiles, hedgehog and other mammals	- sheltering, of site / vegetation and clearance works.	A Precautionary Working Method Statement (PWMS) would be prepared to inform habitat and vegetation clearance. The PWMS would outline the measures and protocols to be implemented on site to avoid or reduce the risk of impacts to wildlife. For example, site clearance of dense vegetation would be undertaken carefully using hand tools and by experienced Contractors under ecological supervision to reduce the risk of mortality to wildlife. Care would be afforded to dense stands of bramble or similar vegetation, which may be used by sheltering hedgehog or other wildlife, particularly during the winter months.	B14 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
		Where contradicting seasonal or other time constraints occur for different ecological features at a given location, the ECoW shall advise the appropriate approach on a case-by-case basis.	
Species – bats, badgers, otters, bats and barn owls	Vehicle collision risk along haul roads.	Speed limits would be imposed on all construction haul roads and access tracks to minimise the risk of road traffic collisions with fauna such as badgers, otters, bats and barn owls.	B15 (C)
Birds - nesting birds	Damage and / or loss of bird nests or nesting habitat.	Vegetation clearance would be kept to a minimum and vegetation retained where possible. Where possible, clearance of vegetation with the potential to support nesting birds would be undertaken outside of the nesting bird season, which is typically taken to be March to August, inclusive (although can be extended (at the beginning and end) for certain species). In the event that vegetation with the potential to support nesting birds is required to be removed during the nesting bird season, works would be preceded by an inspection by a suitably experienced ecologist and may be supervised by an ECoW. If an active nest is identified, a suitable exclusion zone (minimum of 5 m but may be increased at the advice of the ecologist depending on species) would be implemented and remain in place until the ecologist confirms the nest is no longer active.	B16 (C)
Birds - qualifying species of SPA and Ramsar sites	Disturbance of qualifying bird species of coastal SPA and Ramsar designations during construction.	The ECoW shall undertake monitoring pre-construction and during construction for the presence of qualifying bird species of the relevant coastal SPA / Ramsar sites. Where qualifying species are found within a Zol of construction relative to potential disturbance impacts, as determined by the ECoW, and in numbers in excess of 1% of their SPA / Ramsar populations during baseline surveys and / or the construction monitoring surveys, visual and / or acoustic screening would be deployed, where appropriate. In addition, further monitoring would be undertaken by the ECoW to verify the effectiveness of the mitigation, determine the need for further	B17 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
Bats	Loss of roosting resource	<p>mitigation measures and to confirm at what point any mitigation measures may be removed.</p> <p>In relation to roosting bats and trees, the results of GLTAs alongside the use of Licensing Policy 4 (should it be required) would be used to inform a principled approach to mitigation / compensation design; roost resource approach. This would include compensation ratios for disturbance, loss of confirmed roosts and loss of trees identified as PRF-M.</p> <p>It is envisaged the all PRF-Is would be covered via a PWMS, rather than licensing approach, with compensation provided in advance of impacts. Roosting compensation would likely take the form of:</p> <ul style="list-style-type: none"> • Alternative roost features via provision of bat boxes, mounted on retained trees, pole mounted or with a pole integrated into the design; • Retention and mounting of PRF from felled trees; • Installation of monoliths; and • Creation of veteran features within retained trees. <p>The Applicant is engaging with Natural England to discuss the approach to bat licensing and mitigation / compensation for the Project. Further information will be presented in the ES and these proposed measures are subject to change following the outcome of ecological survey and consultation.</p>	B18 (C)
Bats	Temporary fragmentation and severance through removal of linear habitat features along the cable route.	<p>For linear habitat features (such as hedgerows, tree lines and woodland strips / edges) bat commuting route surveys will be completed in line with the Department for Environment, Food and Rural Affairs Local Scale (Ref 6.42) guidance, if required, pending consultation with Natural England.</p> <p>Mitigation may include compensation planting of the feature and may involve the installation of temporary flight lines (TFL), reinstated each</p>	B19 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
		<p>night during the construction period to maintain connectivity along the linear feature.</p> <p>The Applicant is engaging with Natural England to discuss the approach to mitigation for commuting bats. Further information will be presented in the ES.</p>	
Badger	Potential impacts to badger setts (if present but disused).	<p>If present, badger setts within the draft Order Limits that are confirmed as disused would either be left in-situ with the entrance holes 'hard stopped' (e.g., with wooden stakes) or destroyed under the supervision of a suitably experienced ecologist to prevent badgers from taking residence in them during the construction period.</p> <p>Evidence would be recorded of the survey and / or monitoring activity that was undertaken to conclude that there were no signs of use by badger. Hard-stopped entrances would be re-opened on completion of construction works at that location. A licence would not be required for these activities.</p>	B20 (C)
Water vole	Disturbance displacement construction.	<p>and during Unless ground conditions prevent, where watercourses / drains were to be crossed and a trenched installation for the cable is proposed, the watercourse would be blocked at either end of the works area and dewatered where water vole are known to be present.</p>	B21 (C)
Reptiles	Potential killing and injury of common reptiles from site / vegetation clearance works.	<p>All habitats suitable for common reptiles would be subject to two-stage habitat manipulation, which would take place between mid-March and mid-October, where possible (notably where habitat has the potential to support hibernating or sheltering reptiles over the winter months).</p> <p>Firstly, vegetation would be cut to approximately 150 mm (with the arisings removed) under the supervision of an ECoW and the site left for a minimum of two days to allow reptiles to naturally disperse from the area.</p> <p>Secondly, vegetation would be cleared down to ground level under the supervision of an ECoW. Vegetation would be cleared using</p>	B22 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
		<p>appropriate equipment based on the type of vegetation to be removed, the area affected, and the risk of mortality or injuring reptiles. Construction works could commence immediately after completion of the second stage. Reptile hibernacula would be retained and protected during construction where practicable. If unavoidable, the removal of vegetation and groundworks at hibernacula would be timed to avoid the hibernation season (late October to early March). Replacement hibernacula and refugia will be provided.</p>	
Terrestrial invertebrates	Loss or damage to habitat	<p>Where important habitats for terrestrial invertebrates are recorded in the draft Order Limits, such as species-rich grasslands, and decaying and dead wood, these habitats would be retained and protected during construction, where possible, with demarcation fencing (or similar). Where loss or removal of these habitats / features is proposed, appropriate mitigation and compensation would be designed and provided.</p>	B23 (C)
Fish	<p>Potential entrapment of fish within dewatered channels. Killing and / or injury of fish.</p>	<p>Where pre-construction surveys have identified a likely fish presence and opencut crossings or similar severance of channel are proposed (temporary or permanent), over pumping would be used. The pump would be screened to prevent entrainment or impingement of fish or fish friendly pumps would be used to facilitate the downstream passage of fish through the pumps. The use of pumps to move water would require 2 mm screening to avoid the impingement of fish and juvenile eels. In addition, a fish rescue exercise would be completed under the supervision of a suitably experienced ecologist, to rescue and relocate fish from the dewatered area. Where a watercourse is to be diverted, the new channel would be constructed first prior to "stopping up" of the existing channel.</p>	MT05 (C)
Fish	<p>Disturbance and fragmentation effects</p>	<p>Compliant with the Salmon and Freshwater Fisheries Act (1975) (Ref 6.43), the timing of construction works for the English Onshore Scheme would be considerate of the following restriction periods</p>	MT04 (C)

Receptor	Potential changes and effects	Environmental measures	ID reference
		<p>(where appropriate) to avoid adverse effects upon the fish present in watercourses impacted by the English Onshore Scheme:</p> <ul style="list-style-type: none"> • March to November (Eels); • 15 March to 15 June (coarse fish), and • 1 October to 31 May (watercourses with potential to support salmonids). <p>Deviation from the above restriction periods need to be agreed with the statutory authority (Environment Agency).</p>	
INNS	Potential spread of INNS by construction activities.	<p>In the event that invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) (Ref 6.44) are identified during field surveys, desk study analysis and / or on site at the time of construction, a Biosecurity Method Statement shall be prepared and implemented throughout construction. The Biosecurity Method Statement would outline proposed avoidance, mitigation and control measures (as needed) to avoid the spread of invasive species. Where practicable, works areas would be microsituated to avoid contaminated locations. Measures may include the implementation of washing stations for both people and vehicles within “risk” areas.</p>	B24 (C)
Design and Operation			
All ecological receptors, notably fish.	Potential effects from electro-magnetic fields.	<p>The English Onshore Scheme design would be compliant with the policy framework for electric and magnetic fields set out in the National Policy Statement (NPS) for Electricity Networks Infrastructure (EN-5), which requires compliance with relevant Government Electromagnetic Field (EMF) policy, exposure guidelines and associated Codes of Practice. Compliance with these detailed guidelines is demonstrated through the EMF Study presented in Volume 2, Part 1, Appendix 4.A: Electromagnetic Field (EMF) Study.</p>	MT01 (D)

Receptor	Potential changes and effects	Environmental measures	ID reference
Designated sites for nature conservation, HPI and ancient woodland.	<p>Non-statutory designated sites and HPI located within the draft Order Limits (ancient woodland adjacent).</p> <p>Potential impacts and effects from construction activities, including direct habitat loss and indirect impacts (such as noise, dust, light, air quality, hydrological changes).</p>	<p>Where practical, sensitive habitats including statutory and non-statutory designated sites, ancient woodland and HPI have been avoided by design (siting and alignment) of the English Onshore Scheme. At discrete locations, should these emerge during the design process, avoidance would also be sought when micro-siting the likely working areas. This measure would be updated with specific details, with micro-siting or other actions of avoidance (as required) overseen on site by the ECoW.</p>	B01 (D)
Habitats - linear habitats (hedgerows, tree lines, woodland strips, watercourses, ditches).	<p>Direct habitat loss of linear habitats along the cable route.</p>	<p>Where a haul road intersects a linear habitat feature (including hedgerows, tree lines, woodland strips, watercourses, ditches), the width of the haul road would be reduced to a width sufficient for a single vehicle, where possible, safe and practicable, with passing places either side of the linear feature. This approach will be adopted as part of the haul road design specification.</p> <p>In addition, where a linear habitat feature is crossed by the English Onshore Scheme, topsoil and subsoil bunds would be placed with the adjacent fields either side of (rather than across) the linear habitat feature to reduce the length of the linear habitat feature impacted by construction. This design principle will be captured within the Soil and Aftercare Management Plan.</p>	B02 (D)
Habitats - watercourses	<p>Direct and indirect impacts to watercourses, including loss and damage of habitat.</p>	<p>Where appropriate, trenchless crossing methods (such as HDD) would be used at sensitive locations (for example the landfall and main rivers) to avoid or reduce impacts during construction.</p> <p>Where a main river is crossed by a trenchless crossing, the cables would be laid at least 1 m below the hard bed level of the river and would remain at or below this level for a distance of not less than 3 m</p>	MT04 (D)

Receptor	Potential changes and effects	Environmental measures	ID reference
Habitats - watercourses	Diversion of watercourses	<p>from the brink of the riverbank before rising at a slope no greater than 1 vertical in 1.5 horizontal. Marker posts shall also be positioned on each bank of the river to indicate the location of the under-crossing and the nature of the works.</p>	
		<p>Watercourse diversions are proposed to be avoided wherever possible, unless absolutely necessary and agreed with the key stakeholders. Watercourse diversions, where they are unavoidable (namely at the converter station site), will be designed to mimic natural fluvial form and function and maintain passage / connectivity for aquatic species, where applicable.</p>	MT02 (D)
Bats and other nocturnal species.	Disturbance from lighting	<p>In relation to design associated with operational lighting at permanent infrastructure, a suitable lighting design will be developed with consideration of best practice guidance on lighting with regards to bats, as published by the Institution of Lighting Professionals (ILP) & Bat Conservation Trust (BCT) (Ref 6.10). This would include:</p> <ul style="list-style-type: none"> ● Avoidance of direct lighting of bat roosts (or features that may potentially support a bat roost); ● Positioning of lighting columns away from habitats of value to foraging and commuting bats (hedgerows, trees) to ensure there is minimal light spill onto such areas; ● Minimisation of light spill using directional and / or baffled lighting; ● Reducing the height of lighting columns to reduce light spill onto adjacent habitats, where possible; and ● Avoid use of blue-white short wavelength lights and high ultra-violet content. 	B03 (D)
Water vole	Fragmentation	<p>Where watercourses are to be crossed by construction traffic, measures that would be applied include prioritising the use of temporary spanned bridges over temporary culverts. The design (type</p>	B04 (D)

Receptor	Potential changes and effects	Environmental measures	ID reference
Fish	Fragmentation and severance (fish passage)	<p>and size) of any temporary culvert or bridge would be informed by baseline and / or future pre-construction surveys to maintain connectivity for water vole. Where water vole are confirmed as present, a clear span bridge / box-shaped culvert (or similar) would be implemented. The temporary culvert design would be discussed and agreed in advance with the ECoW.</p> <p>The haul road design specification would be informed by baseline water vole surveys. It will outline the design principles for the haul road pertaining to water vole presence, which could also be applied reactively in response to the results of pre-construction or construction monitoring surveys.</p> <p>The Project would be designed to comply with appropriate design specifications. Specifically, at sensitive crossing locations (e.g., main rivers / Water Framework Directive watercourses), temporary bridges would be used in preference to culverts for construction access and any permanent crossings would be bridges. Where temporary culverting of sensitive watercourses would be required, these would either be arch culverts, leaving the natural bed undisturbed, or they would be box culverts, installed with the invert set below the natural bed level for a semi-natural bed to establish within the culvert, where practicable.</p> <p>Where required, culverts would be orientated to reduce culvert lengths to a practicable minimum and avoid narrowing of natural channel width to maintain fish passage and allow light to penetrate.</p> <p>Where required, culvert design should seek to meet the criteria specified in the Institute of Fisheries Management (IFM) Fish Pass Manual. This is to ensure the culvert could, in theory, be passed by fish known to be present. Where practical, culverts should seek to reduce the impacts on aquatic species by using designs that simulate natural channel conditions, for example, by providing roughened beds, baffles, and refuge areas (such as masonry with cavities) through long</p>	MT03 (D)

Receptor	Potential changes and effects	Environmental measures	ID reference
All ecological features.	Potential disturbance, killing and injury, damage of supporting habitat.	<p>culverts, or those with steep (>2) gradients. This is to encourage fish movement through long culverts, or over steep gradients.</p> <p>Culverts should be installed outside of eel migration periods i.e., avoid March and September for upstream-migrating juveniles and October to November for downstream-migrating silver eel (discussion with local EA fisheries specialists would be required to determine the exact eel run as regions have slightly different timings).</p> <p>Culvert design on other watercourses would be subject to the watercourse characteristics and would be agreed with the relevant authority.</p> <p>Drainage design and surface water runoff systems including basins, SUDs and outfalls should be designed in order to prevent the ingress of fish from existing watercourses. This is to prevent fish species from becoming entrained / entrapped during low flow and drought conditions.</p>	B05 (D)

6.7 Scope of the Assessment

Spatial scope and study area

- 6.7.1 The spatial scope of the assessment of biodiversity covers the area of the English Onshore Scheme contained within the draft Order Limits, together with the study area(s) described as follows. The study areas presented below are for the purpose of the impact assessment and have been informed by the likely Zols for the English Onshore Scheme. Therefore, study areas below have been refined in comparison to those defined for the purpose of data gathering, as detailed in Section 6.4 above.
- 6.7.2 In addition, for the purpose of delineation between the English Onshore Scheme and the English Offshore Scheme Biodiversity assessments, this English Onshore Scheme Biodiversity chapter considers predominantly terrestrial and freshwater aquatic habitats and species¹⁵ and will consider the intertidal zone down to MLWS at the proposed landfall, where there is interaction with the English Offshore Scheme.
- 6.7.3 As detailed within the Scoping Report, which remains valid, potential impacts of the English Onshore Scheme are primarily associated with the construction phase, with operational impacts limited to environmental changes relating to disturbance associated with permanent infrastructure only (i.e., the proposed EGL 5 converter station). In line with the Scoping Report and agreed to by the Planning Inspectorate in the scoping opinion (see **Volume 2, Part 2, Appendix 6.A: Summary of EIA Scoping Responses for Biodiversity**), impacts associated with maintenance activities are scoped out of assessment. Environmental changes that could significantly affect ecological features are broadly grouped into the following:
- **Temporary land take / land use change** (associated with infrastructure such as the cable routes and construction compounds, resulting in habitat loss, modification and / or degradation, with associated impacts to fauna);
 - **Permanent land take / land use change** (anticipated to be restricted to permanent infrastructure at the EGL 5 converter station and associated accesses);
 - **Fragmentation of habitats** (resulting in a reduction in connectivity and / or habitat severance);
 - **Direct mortality of species** (as a result of construction activities, such as vegetation clearance, excavation works, vehicular traffic);
 - **Increased noise, vibration, light and movement levels from people and traffic** (resulting in disturbance / displacement);
 - **Changes in hydrology** (resulting in the effects of habitat loss or degradation and / or loss of fauna);
 - **Changes in air quality** (as a result of dust or vehicle emissions (nitrogen deposition and ammonia concentration), leading to habitat damage or degradation);

¹⁵ The Onshore Biodiversity chapter also considers those migratory species present in both onshore and offshore habitats, such as certain species of fish.

- **Pollution events** (including the liberation of sediments, bentonite breakout during trenchless installation such as HDD and chemical pollutants resulting in habitat loss, modification or degradation and / or loss of fauna); and
 - **Introduction or spread of invasive non-native species (INNS)** (resulting in habitat modification or degradation).
- 6.7.4 To understand if an environmental change may give rise to potential significant effects, it is important to establish the Zol for each impact pathway. Zols can differ depending on the type of environmental change and potentially also the ecological feature being considered (for example, different ecological features may be more or less resilient to a change).
- 6.7.5 The most straightforward Zol to define is the area affected by land-take and direct land use changes associated with the English Onshore Scheme. This Zol is the same for all affected ecological features.
- 6.7.6 By contrast, for environmental changes that can extend beyond the area affected by land-take and land-use change (for example, increased noise associated with construction activities), the Zol may vary between ecological features, dependent upon their sensitivity to the change and the precise nature of the change. For example, a badger might only be disturbed by loud or percussive noise generated close to its sett, while nesting marsh harrier might be disturbed by noise generated at a much greater distance. Other species (e.g., many invertebrates) may be unaffected by changes in noise. In view of these complexities, the definition of the Zol that extends beyond the land-take area was based upon professional judgement informed (as far as possible) by a review of published evidence (e.g., disturbance criteria for various species) and discussions with the technical specialists who are working on other chapters of this PEIR.
- 6.7.7 The Zols for each broad environmental change are specified below. Due to the level of information currently available for this preliminary assessment, the Zols have been applied broadly to be precautionary. Zols defined for the construction phase are as follows:
- **Temporary and permanent land take / land use change** – Zol within the draft Order Limits for habitats and sedentary species; mobile species (such as bats or SPA / Ramsar qualifying bird and migratory / aquatic species) may be affected beyond this if land within the draft Order Limits overlaps their typical home ranges or movement patterns and if it causes habitat severance;
 - **Fragmentation of habitats** – Zol within the draft Order Limits for habitats and sedentary species; mobile species (such as bats or SPA / Ramsar qualifying bird and migratory / aquatic species) may be affected beyond that if land within the draft Order Limits overlaps their typical home ranges or movement patterns and if it causes habitat severance;
 - **Direct mortality of species** – Zol within the draft Order Limits (more accurately, active construction works areas);
 - **Increased noise, vibration, light and movement levels from people and traffic (disturbance)** – Zol for sensitive species is variable and dependent on the species' tolerance to sources of disturbance. Zol are typically up to 300 m from the construction

works¹⁶, noting that for mobile features of designated sites this is related to the species' habitat use and associated home range distance, as opposed to designation boundary. This Zol may be increased on a case-by-case basis dependent on the species being assessed (for example, some wader species may exhibit changes in behaviour to disturbance source up to approximately 800 m);

- **Changes in hydrology** – Zol for sensitive habitats and / or species is up to 500 m from draft Order Limits¹⁷, noting that for mobile features of designated sites this is related to the species' habitat use and associated home range distance, as opposed to designation boundary;
- **Changes in air quality** – Zol for sensitive habitats and / or species in relation to dust is up to 250 m from the draft Order Limits and for impacts associated with vehicular emissions (including ammonia) is 200 m from the affected road network (ARN – preliminary ARN defined for PEIR, but potential to change for ES)¹⁸;
- **Pollution events** – Zol for habitats and species is generally within construction areas and up to 500 m from the construction works, principally informed by the Zol for hydrological connection; and
- **Introduction or spread of INNS** – Zol is generally within construction areas and up to 500 m from the construction works, principally informed by the Zol for hydrological connection.

6.7.8 For the operational phase of the English Onshore Scheme, as detailed within the Scoping Report, environmental changes that could lead to potentially significant effects are anticipated to relate to artificial lighting and noise associated with permanent infrastructure at the converter station only. The Zol for artificial lighting is to be explored further within the ES, although anticipated can be largely mitigated through appropriate design (embedded measure). The Zol for operational noise associated with the permanent infrastructure is 1 km (in accordance with **Volume 1, Part 2, Chapter 13: Noise and Vibration**).

6.7.9 The Zols presented above have taken account of environmental measures identified to date that are to be implemented to reduce effects, such as the avoidance of potentially significant effects through the design process as well as standard construction best practice measures (as tried and trusted). The Zols will be revisited within the ES to take account of any further design development and / or environmental measures proposed to avoid or reduce the impacts of the English Onshore Scheme.

6.7.10 When scoping in or out ecological features or routes of impact from further assessment, embedded environmental measures (see Section 6.6) associated with general good practice have been taken into account (e.g., dust suppression, appropriately scheduled vegetation removal and so on).

¹⁶ As informed by the Zol presented in **Volume 1, Part 2, Chapter 13: Noise and Vibration**, Zol for light impacts to be explored further within the ES, although it is anticipated can be largely mitigated through appropriate design (embedded measure).

¹⁷ As informed by the Zol presented in **Volume 1, Part 2, Chapter 9: Water Environment** and **Volume 1, Part 2, Chapter 10: Geology and Hydrogeology**.

¹⁸ As informed by the Zol presented in **Volume 1, Part 2, Chapter 14: Air Quality**. Provisional ARN and limitations associated with this are detailed further in **Volume 1, Part 2, Chapter 14: Air Quality** and **Volume 1, Part 2, Chapter 12: Traffic and Transport**.

6.7.11 The following environmental changes are scoped out for all ecological features:

- **Changes in air quality (operation)** – as concluded within the Scoping Report Table 6-9 and detailed in **Volume 1, Part 2, Chapter 14: Air Quality**, vehicle trips associated with the operation and maintenance phase are anticipated to be below screening criteria and therefore impacts are considered to be non-significant. Of relevance to designated sites and ancient woodland habitats;
- **Disturbance from maintenance (operation)** – as concluded within the Scoping Report Table 6-9 the impact of disturbance from lighting, noise and dust can be scoped out because activities are likely to be temporary, short-term, and localised and are therefore not likely to lead to significant effects;
- **Modification / degradation of habitats from pollutants (operation)** – as concluded within the Scoping Report Table 6-9 impacts to protected and / or notable species and the habitats which support them from pollutants during maintenance activities can be scoped out. This is because activities are likely to be temporary, short-term, and localised and are therefore not likely to lead to significant effects;
- **Mortality or injury from construction activities** (vegetation clearance and entrapment in excavations) – these impact pathways can be scoped out on the basis of implementation of best practice approaches to vegetation clearance and the implementation of embedded measures to avoid or reduce the potential for wildlife to become entrapped in voids (and / or implement protocols should this happen), see Section 6.6 above;
- **Increased movement levels** – death and injury of fauna due to increased movement of traffic of construction and operational vehicles and plant are scoped out based on the implementation of speed limits on all construction haul roads and access tracks that would be employed, and the relatively limited amount of traffic involved (see Section 6.6 above); and
- **Introduction or spread of INNS** – the introduction or spread of INNS can be scoped out based on the implementation of embedded mitigation measures such as the Biosecurity Method Statement.

Temporal scope

6.7.12 The temporal scope of the assessment of biodiversity is consistent with the period over which the English Onshore Scheme would be carried out. As detailed in **Volume 1, Part 1, Chapter 4: Description of the Project**, it covers the period 2029 – 2035 for construction, and the lifetime of the Project for operation (expected to operate for 40 years, although likely extended through replacement and repair).

6.7.13 The English Onshore Scheme is expected to have a minimum life span of approximately 40 years. If decommissioning is required at this point in time, then activities and effects associated with the decommissioning phase are expected to be of a similar level to those during the construction phase works, albeit with a lesser duration of two years. Acknowledging the complexities of completing a detailed assessment for decommissioning works up to 40 years in the future, it is considered that the significance of effects relating to the decommissioning phase would be no greater than those from the construction phase and decommissioning effects are not discussed in detail in this chapter; however, Table 4.19 in **Volume 1, Part 1, Chapter 4: Description of the Project** provides a high level summary assessment of the likely significant effects associated with decommissioning. Furthermore, should decommissioning take place it is

expected that an assessment in accordance with the legislation and guidance at the time of decommissioning would be undertaken.

6.7.14 For the purpose of describing impacts and effects, the temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur, and are typically defined as either being:

- Permanent - these are effects that would remain even when the Project is complete, although these effects may be caused by environmental changes that are permanent or temporary.
- Temporary – these are effects that are related to environmental changes associated with a particular activity and that would cease when that activity finishes.

6.7.15 Furthermore, the temporal scope of assessment may also consider the duration of the resultant effect, using the following general categories (noting that professional judgement and available guidance would also be applied on a case-by-case basis):

- Short-term – less than two years;
- Medium-term – between two -10 years; and
- Long-term – over 10 years.

Identification of receptors

6.7.16 The principal ecological features that have been identified as being potentially subject to significant effects are summarised in **Table 6-6**. It should be noted that in the absence of a full ecological baseline, some ecological features have been identified on a precautionary basis on the assumption that they are present and / or present in sufficient numbers to the extent that potentially significant effects may occur. Once further baseline surveys are completed, the ecological features for inclusion within the impact assessment will be revisited and refined where appropriate, with a full and final account presented in the ES.

Table 6-6 Ecological features subject to potential effects

Ecological feature	Reason for consideration
<p>International statutory designated sites for nature conservation and the qualifying features for which they are designated, including:</p> <ul style="list-style-type: none"> • Greater Wash SPA; • Inner Dowsing, Race Bank and North Ridge SAC; • Saltfleetby-Theddlethorpe Dunes & Gibraltar Point SAC; and • Humber Estuary SPA / Ramsar. <p>(see Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report and Volume 3, Part 2, Figure 6-1).</p>	<p>These designated sites of international importance occur within the Zol of the Project and / or with a relevant hydrological connection to the draft Order Limits.</p> <p>Impacts may occur within / directly adjacent to the designated site (restricted to Greater Wash SPA only) or to FLL used by qualifying species of the designated site.</p> <p>The assessment of impacts to marine components will be detailed where appropriate within Volume 1, Part 3, Chapter 17: Coastal and Marine Physical Processes, Volume 1, Part 3, Chapter 18: Intertidal and Subtidal</p>

Ecological feature	Reason for consideration
<p>National statutory designated sites for nature conservation. (see Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report and Volume 3, Part 2, Figure 6-2).</p>	<p>Benthic Ecology, Volume 1, Part 3, Chapter 19: Fish and Shellfish, Volume 1, Part 3, Chapter 20: Intertidal and Offshore Ornithology, and Volume 1, Part 3, Chapter 21: Marine Mammals and Marine Reptiles.</p> <p>These designated sites are of ecological importance and material consideration for the English Onshore Scheme because they occur within its Zol.</p>
<p>Non-statutory designated sites for nature conservation (such as LWS, RNR and LWT sites). (see Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report and Volume 3, Part 2, Figure 6-3).</p>	<p>These designated sites are of ecological importance and material consideration for the English Onshore Scheme because they occur within its Zol.</p>
<p>Habitats of Principal Importance (HPI), for example hedgerows and watercourses.</p>	<p>Present within the Zols of the English Onshore Scheme and of material consideration under the NERC Act 2006.</p>
<p>Ground water dependent terrestrial ecosystems (GWDTE).</p>	<p>Presence within the Zols of the English Onshore Scheme for groundwater (500 m) currently unconfirmed and therefore identified for further consideration on a precautionary basis.</p>
<p>Ancient woodland</p>	<p>No ancient woodland sites known to be directly impacted by the English Onshore Scheme (within the draft Order Limits).</p> <p>At present, it is unknown if any ancient woodland is located within a Zol relating to air quality (dust or traffic emission impacts from construction). Therefore, precautionarily scoped in.</p>
<p>Birds (wintering, breeding, passage and intertidal).</p>	<p>Habitats present that could support bird species year-round. Potential for FLL of qualifying species of the coastal SPA and Ramsar sites within the Zol of the English Onshore Scheme.</p>
<p>Bats</p>	<p>Habitats present that are suitable for roosting, foraging and commuting bats. Potential for loss of roosting resource (primarily relating to loss of trees with bat roosting suitability and / or functional loss of roosts due to fragmentation, in the absence of mitigation) and potential fragmentation or severance impacts to</p>

Ecological feature	Reason for consideration
Badger	commuting and foraging through loss of linear features, such as hedgerows.
Otter	Habitats present that may support otter (resting and foraging). Potential impacts to resting places (if present), disturbance during construction, and increase in habitat network severance.
Water vole	Habitats present that may support water vole, including watercourses, drains and ditches. Water vole known to be present. Potential impacts to habitat and disturbance of water vole during construction and increase in habitat network severance.
Amphibians – great crested newt and common amphibians.	Habitats present that may support amphibians. Potential impacts from loss of habitat during construction (primarily terrestrial and ditches) and increase in habitat network severance.
Reptiles	Habitats present that may be suitable for reptiles, although limited and not extensive (based on desk study and field survey data collected to date). Likely that implementation of embedded mitigation measures (for example precautionary methods of work for site clearance, (see Section 6.6) would avoid significant impacts. However, given the current progress of PEA surveys and potential to encounter an area of greater importance for reptiles, reptiles remain scoped into the assessment.
Species of Principal Importance (SPI); including brown hare and hedgehog.	Habitats present suitable to support the species. Potential impacts from construction, primarily relating to disturbance and increase in habitat network severance.
Invertebrates (terrestrial and aquatic).	Habitats present within the draft Order Limits that may support these species. Potential impacts from loss of habitat during construction and increase in habitat network severance.

Ecological feature	Reason for consideration
Fish (including migratory species).	Habitats present within the draft Order Limits that may support these species. Potential disturbance and fragmentation effects during construction.
Notable terrestrial or aquatic (macrophyte) plant species.	Habitats present within the draft Order Limits that may support such species.
INNS (including animals and plants which are terrestrial or aquatic).	Potential to be supported by the habitats within the draft Order Limits.

Potential effects considered within this assessment

6.7.17 The effects on ecological features which have the potential to be significant and have been taken forward for detailed assessment are summarised in **Table 6-7**. It should be noted that in the absence of a full ecological baseline, some impacts and effects have been identified on a precautionary basis on the assumption that the habitat or species is present and / or present in sufficient numbers to the extent that potentially significant effects may occur. Only where appropriate and where confidence exists at this PEIR stage have potential effects been scoped out from being subject to further assessment (as detailed in **Table 6-8**). Once further baseline surveys are completed, the potential impact pathways and likelihood of potentially significant effects will be revisited and refined where appropriate, with a full and final account presented in the ES.

Table 6-7 Ecological features and potential impact pathways scoped in for further assessment

Ecological feature	Stage	Potential significant impacts pathways and effects
International statutory designated sites for nature conservation and the qualifying features for which they are designated, including: <ul style="list-style-type: none"> Greater Wash SPA; and Humber Estuary SPA / Ramsar. 	Construction	<p>Temporary direct loss and indirect damage of habitats that may support qualifying species (functionally linked habitat, if present).</p> <p>Temporary indirect impacts (such as noise, dust, light, air quality including ammonia from site traffic, hydrological changes, pollution events, bentonite breakout; as appropriate).</p> <p>Disturbance of qualifying species using FLL (if present).</p> <p>Temporary obstruction of passage of qualifying aquatic species (if present).</p>
International statutory designated sites for nature conservation and the qualifying features for which they are designated, including: <ul style="list-style-type: none"> Greater Wash SPA; and 	Operation	Disturbance of qualifying species using FLL (if present).

Ecological feature	Stage	Potential significant impacts pathways and effects
<ul style="list-style-type: none"> Humber Estuary SPA / Ramsar. 		
National statutory designated sites for nature conservation.	Construction	<p>Temporary indirect impacts (such as noise, dust, light, air quality including ammonia from site traffic, hydrological changes, pollution events, bentonite breakout; as appropriate).</p> <p>Temporary disturbance of qualifying species.</p>
Non-statutory designated sites for nature conservation (such as LWS, RNR and LWT reserves).	Construction	<p>Temporary indirect impacts (such as noise, dust, light, air quality, hydrological changes, pollution events, bentonite breakout; as appropriate).</p> <p>Temporary disturbance of qualifying species.</p>
HPI, for example hedgerows and watercourses.	Construction	<p>Permanent habitat loss, modification, degradation or fragmentation (restricted to permanent infrastructure).</p> <p>Temporary direct and indirect habitat loss, modification or degradation.</p> <p>Temporary indirect impacts (such as dust, construction traffic emissions, hydrological changes, pollution events, bentonite breakout; as appropriate).</p> <p>Temporary habitat fragmentation and severance.</p>
GWDTE	Construction	Temporary direct and indirect habitat modification or degradation, including those resulting from hydrological changes and pollution events including (but not limited to) bentonite breakout.
Ancient woodland	Construction	Temporary indirect impacts from changes in air quality from dust and / or construction traffic emissions.
Species: Birds (wintering, breeding, passage and intertidal) Bats Badger Otter Water vole	Construction	<p>Permanent habitat loss, modification, degradation (from air quality changes, hydrological changes, pollution events; as appropriate) (restricted to permanent infrastructure).</p> <p>Permanent loss (or functional loss) of resting places (e.g., bat roosts, badger setts, otter holts, water vole burrows), if present.</p>

Ecological feature	Stage	Potential significant impacts pathways and effects
<p>Amphibians – great crested newt and common amphibians</p> <p>Reptiles</p> <p>Invertebrates (terrestrial and aquatic)</p>		<p>Killing / injury of individual animals during the construction phase.</p> <p>Temporary direct and indirect habitat loss, modification or degradation (from air quality changes, hydrological changes, pollution events; as appropriate).</p> <p>Temporary habitat fragmentation and severance (excluding birds).</p> <p>Temporary disturbance (increased noise, vibration, light and movement levels) – dependent on source, magnitude and species tolerance (notably for invertebrates).</p> <p>Temporary indirect impacts (such as air quality changes, hydrological changes, pollution events; as appropriate).</p>
<p>Fish (including migratory species).</p>	<p>Construction</p>	<p>Permanent habitat modification and / or degradation (such as permanent culverts).</p> <p>Permanent loss (or functional loss) of refuge / spawning habitats, if present.</p> <p>Killing / injury of individual animals during construction.</p> <p>Temporary direct and indirect habitat loss, modification or degradation (such as temporary culverts, vegetation and sedimentation, as well as including result of hydrological changes).</p> <p>Temporary behavioural impacts (disruption of sensitive periods for fish species).</p> <p>Temporary fragmentation and severance (such as barriers to fish passage and / or EMF).</p> <p>Temporary disturbance (increased noise, vibration, light and movement levels) - dependent on source, magnitude and species tolerance (notably for migratory fish species).</p>
<p>Notable terrestrial or aquatic plant species.</p>	<p>Operation</p>	<p>Permanent disturbance (dependent on baseline findings and predicted noise and light* levels of permanent infrastructure) - dependent on magnitude and species.</p> <p>Permanent (permanent infrastructure only) and temporary habitat loss, modification, degradation (including as a result of hydrological changes and pollution events; as appropriate).</p>

Ecological feature	Stage	Potential significant impacts pathways and effects
INNS	Construction	Permanent direct spread of invasive species (in the absence of intervention). Removal / control of invasive species (permanent or temporary beneficial impact).

* Light levels during operation current screened in on a precautionary basis given that baseline surveys are not yet complete. However, with the embedded mitigation for lighting design that takes ecology into consideration (see Section 6.6), there is potential that this could be later scoped out or that non-significant effects are identified.

6.7.18 The receptors / effects detailed in **Table 6-8** have been scoped out from being subject to further assessment because the potential effects are not considered likely to be significant.

Table 6-8 Summary of effects scoped out of the biodiversity assessment

Receptors	Stage	Justification
Inner Dowsing, Race Bank and North Ridge SAC. Saltfleetby-Theddlethorpe Dunes & Gibraltar Point SAC.	Construction	Distance to the SAC and none of the qualifying habitats are known to be within a Zol of the English Onshore Scheme. Therefore, impacts and effects to qualifying habitats within the SAC or those that may be functionally linked are not predicted.
Greater Wash SPA	Construction	Although the SPA overlaps with the draft Order Limits, it does not contain sensitive habitats and tidal flushing removes deposited pollutants associated with changes in air quality and dilutes them, and as such no impacts are anticipated.
Saltfleetby-Theddlethorpe Dunes & Gibraltar Point SAC Greater Wash SPA. Humber Estuary SPA / Ramsar Inner Dowsing, Race Bank and North Ridge SAC.	Operation	As operational potentially significant effects are restricted to sources of light and noise from permanent infrastructure (EGL 5 converter station), impacts to functionally linked habitats for relevant aquatic qualifying species during operation are not predicted. Distance to the SAC and none of the qualifying habitats are known to be within a Zol of the English Onshore Scheme. Therefore, impacts and effects to qualifying habitats within the SAC or those that may be functionally linked are not predicted.
National statutory designated sites for nature conservation.	Operation	No national statutory designated sites within the Zol of the permanent infrastructure of the English Onshore Scheme.

Receptors	Stage	Justification
		Therefore, impacts and effects to qualifying habitats within the SSSI's are not predicted.
Non-statutory designated sites for nature conservation (such as LWS, RNR and LWT reserves).	Operation	No non-statutory designated sites within the Zol of the permanent infrastructure of the English Onshore Scheme. Therefore, impacts are not predicted.
HPI, for example hedgerows GWDTE Ancient woodland	Operation	As operational potentially significant effects are restricted to sources of light and noise from permanent infrastructure, impacts to habitats during operation are not predicted.
Natterjack toad	Construction and operation	Distance and habitat severance between Site and known populations and a lack of supporting habitats within a Zol of the English Onshore Scheme. Therefore, impacts and effects to this species are not predicted.
SPI – brown hare and hedgehog.	Construction	Potentially significant effects from habitat loss and disturbance are unlikely with implementation of embedded best practice during vegetation clearance (see Section 6.6). Therefore, impacts are not predicted.
	Operation	Whilst disturbance from light or noise of permanent infrastructure may occur, this would be localised and unlikely to give rise to potentially significant effects for brown hare and hedgehog. Therefore, impacts are not predicted.
Notable terrestrial or aquatic plant species.	Operation	As operational potentially significant effects are restricted to sources of light and noise from permanent infrastructure, impacts to habitats during operation are not predicted.
INNS	Operation	Operational activities are primarily restricted to activity associated with the permanent infrastructure. Potential to spread INNS are not predicted. Biosecurity embedded measures would also be relevant and implemented during any maintenance activities, therefore avoiding or reducing the likelihood of spread of INNS. Therefore, potentially significant effects are not predicted during the operational phase.

6.8 Key Parameters for Assessment

Realistic worst-case design scenario

- 6.8.1 The assessment has followed the Rochdale Envelope approach as outlined in **Volume 1, Part 1, Chapter 4: Description of the Project** and **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology of the PEIR**. The assessment of effects has been based on the description of the Project and parameters outlined in **Volume 1, Part 1, Chapter 4: Description of the Project**. However, where there is uncertainty regarding a particular design parameter, the realistic worst-case design parameters are provided below with regards to biodiversity along with the reasons why these parameters are considered worst-case. The preliminary assessment for biodiversity has been undertaken on this basis. Effects of greater adverse significance are not likely to arise should any other development scenario, based on details within the Rochdale Envelope (e.g., different infrastructure layout within the draft Order Limits), to that assessed here be taken forward in the final design of the English Onshore Scheme.
- 6.8.2 In relation to biodiversity, the following assumptions are made regarding the English Onshore Scheme design parameters and commitments in order to ensure a realistic worst-case preliminary assessment has been undertaken.
- The habitat clearance to allow for site establishment, haul road construction and site compound deployment will occur outside of the nesting bird season (March to September, inclusive).
 - The working width for HVDC and HVAC cable installation is assumed to be 49 m and 84 m (respectively) and that cable joint bays will be required every 800 m. The dimensions of cable joint bays would be determined through consultation feedback, information from surveys and ongoing design studies but are assumed to be 12 m by 5 m for this scenario. The scenario therefore represents a reasonable worst-case extent of habitat loss. Whilst parameters are known for construction elements such as the cable working width and permanent infrastructure requirements, it is assumed that the removal of vegetation could occur anywhere within the indicative zone for underground cable assets and the indicative zone for the new converter station. This is to account for potential design change and / or realignment.
 - A temporary haul road is assumed to be installed along the entire length of the English Onshore Scheme and will be in place and potentially remain in use for the duration of construction. It is assumed that the impacts from haul road would be approximately 10 m wide to allow for 7 m width at ground level with an additional 3 m of width to allow for battered sides and increased width at corners. This scenario is anticipated to represent the greatest extent (in terms of spatial impact) and duration associated with the haul road.
 - Where a haul road intersects a linear habitat feature (such as hedgerows, tree lines, woodland strips, watercourses, ditches), the width of the haul road would be reduced to a width sufficient for a single vehicle, where possible, with passing places either side of the linear feature.
 - Where a linear habitat feature is crossed by the English Onshore Scheme, topsoil and subsoil bunds would be placed within the adjacent fields either side of (rather than across) the linear habitat feature to reduce the length of the linear habitat feature impacted by construction.

- The construction method for creating crossings for watercourses (including ditches) has been based on the draft crossing schedule (**Volume 2, Part 2, Appendix 9.C: Preliminary Watercourse Crossing Schedule**). Where possible culverts would be avoided, however, to assess a realistic worst-case scenario it has been assumed that a pipe culvert would be used for potential impacts to watercourses and the biodiversity they support.
- For ducted cables, upon excavation and installation of the cable ducting, trenches would be backfilled with subsoil. However, topsoil reinstatement is currently anticipated upon completion of construction, cable testing and removal of the haul road. Therefore, habitat loss within the HVDC / HVAC working width is assumed to be up to the duration of construction (approximately six years). This scenario represents a reasonable worst-case duration of habitat loss.
- For temporary construction compounds, it is assumed that eventual siting could be anywhere within the field boundary to which the indicative zone for the construction compounds has been allocated but that the following approximate dimensions will be used: 200 m by 200 m for the converter station compound; 150 m by 150 m for the main cable compound; and 75 m by 75 m for satellite cable compounds. These construction compounds will be connected to the main haul road for site traffic and utilities via a compound haul road. It is assumed that the impacts from compound haul roads would be approximately 10 m wide to allow for 7 m width at ground level with an additional 3 m of width to allow for battered sides and increased width at corners.
- The timing of construction activities set out within this PEIR is indicative. To allow for any unexpected circumstances and a realistic worst-case assessment, the impact assessment considers multiple concurrent work-fronts along the cable route. This represents a reasonable worst-case scenario in terms of cumulative disturbance across the English Onshore Scheme.

6.9 Assessment Methodology

Overview

- 6.9.1 The generic project-wide approach to the assessment methodology is set out in **Volume 1, Part 1, Chapter 5: PEIR Approach and Methodology**, and specifically in Sections 5.4 to 5.6. However, whilst this has informed the approach that has been used in this biodiversity assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this biodiversity assessment. Details are provided below.
- 6.9.2 Following a series of detailed desk and field based ecological assessments, an Ecological Impact Assessment (EclA) will be undertaken to assess the potential impacts of the English Onshore Scheme on biodiversity, once all impact avoidance and mitigation measures have been agreed.

Receptor sensitivity / value

- 6.9.3 In accordance with the CIEEM EclA Guidelines (Ref 6.1), a number of characteristics contribute to the importance of an ecological feature. These include for example (but not exclusively): the rarity of a species or habitat, legal protection / conservation status, ability to resist or recover from environmental change and uniqueness of an ecological feature, whether the species population size is notable in a wider context, the richness of

assemblages of plants and animals and the presence of species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

- 6.9.4 The nature conservation importance of an ecological feature is represented on a geographic scale, as detailed in **Table 6-9** below. Assigning importance to ecological features is also based on professional judgement informed by available guidance and information along with expert advice.
- 6.9.5 CIEEM’s EcIA guidelines (Ref 6.1) state that only ecological features which are important and potentially affected by a scheme should be subject to detailed evaluation. For the purposes of this assessment, ecological features of ‘Local’ importance or higher are assessed as being Important Ecological Features (IEFs) and therefore considered with regards to significance of effects. Ecological features of ‘Site’ importance or below are not considered sufficiently important to experience potentially significant effects and are not assessed as being IEFs.

Table 6-9 Defining importance of ecological features

Geographic context of importance	Criteria
International or European	<ul style="list-style-type: none"> • European Sites including SPA and SAC. • Ramsar sites (designated under international convention) and proposed Ramsar sites are also considered in the same manner in accordance with national planning policy. • Areas of habitat or populations of species which meet the published selection criteria for designation as a European Site based on discussions with Natural England and field data collected to inform the impact assessment, but which are not themselves currently designated at this level.
National (relating to the UK, specifically England)	<ul style="list-style-type: none"> • A nationally designated site including SSSI and NNR. • Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs but which are not themselves designated based on field data collected to inform the impact assessment, and in agreement with Natural England. • Species of Principal Importance (SPI) and HPI, Red listed and legally protected or notable species that are not addressed directly in Part 2 of the Guidelines for Selection of Biological SSSIs (Ref 6.46) but can be determined to be of national importance using the principles described in Part 1 of the guidance. • Areas of Ancient Woodland, for example woodland listed within the Ancient Woodland Inventory (Ref 6.47) and ancient and veteran trees.
Regional (East Midlands, East of England)	<ul style="list-style-type: none"> • Regularly occurring HPI or populations of SPI, Red listed and legally protected or notable species may be of regional

Geographic context of importance Criteria

importance in the context of published information on population size and distribution.

County (Lincolnshire) • LNR and non-statutory designated sites including: LWS, RNR and LWT. Areas which, based on field data collected to inform the impact assessment, meet the published selection criteria for those sites listed above (for habitats or species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.

Local (towns, local country area e.g., East Lindsey) • HPI and SPI, Red listed and legally protected or notable species that based on their extent, population size, quality, etc., are determined to be at a lesser level of importance than the geographic contexts above.

- Common and widespread semi-natural habitats occurring within the study area in proportions greater than may be expected in the local context.
- Common and widespread native species occurring within the study area in numbers greater than may be expected in the local context.

Site or Negligible • Common and widespread semi-natural habitats and species that do not occur in levels elevated above those of the surrounding area.

- Areas of heavily modified or managed land uses (for example, hard standing used for car parking, as roads etc.).

Scope of Ecological Impact Assessment (EclA)

6.9.6 The EclA will consider the potential effects of the English Onshore Scheme upon IEFs identified during the baseline survey and data collection, in accordance with the CIEEM EclA Guidelines (Ref 6.1). This requires the identification of pathways available for an impact, either directly or indirectly, to result in a potential significant effect to the habitat and / or species. IEFs may be located within areas directly impacted by the English Onshore Scheme or the wider areas surrounding this (i.e., the ZoI).

Identification and Characterisation of Potential Impacts

6.9.7 The potential impacts of the English Onshore Scheme during construction and operation and the potential ecological effects arising from them will be identified and characterised, taking into consideration the following parameters:

- **Beneficial or adverse** - whether the impact would result in net loss or degradation of an IEF or whether it would enhance or improve it.
- **Extent** - the spatial area over which an impact occurs.

- **Magnitude** - the size or intensity of the impact measured in relevant terms, e.g., number of individuals lost or gained, area of habitat lost or created or the degree of change to existing conditions (e.g., noise or lighting levels).
- **Duration** - the length of time over which the impact occurs. The duration of the impacts will be described as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to two years, medium-term is considered to be between two and ten years and long-term is considered to be greater than ten years.
- **Reversibility** - the extent to which impacts are reversible either through natural regeneration and succession or through active mitigation.
- **Timing and frequency** - consideration of the timing of events in relation to ecological change, for example, some impacts may be of greater magnitude if they take place at certain times of year (e.g., breeding season). The extent (see above) to which an impact is repeated may also be of importance.
- Impacts on IEFs can be permanent or temporary, direct or indirect, and can be cumulative. These factors are brought together to assess the potential impact on the integrity or conservation status of a particularly important ecological feature.

6.9.8 Potential impacts are characterised initially in the absence of any mitigation, except where this is integral to the design of the English Onshore Scheme (design measures).

6.9.9 Collaboration and data exchange with other relevant disciplines, such as air quality and arboriculture, will be carried out to further inform the EclA and assessment of potential impacts.

Significance of effect

6.9.10 Having characterised importance and potential impacts, the significance of the predicted effects on IEFs arising will be assessed. The assessment of likely potential significant effects as a result of the English Onshore Scheme will be considered for both the construction and operational phases.

6.9.11 The CIEEM EclA guidelines (Ref 6.1) define a significant effect in the context of an EclA as "*an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general*". Significant effects, as defined by the CIEEM EclA guidelines, are determined by assessing any deviation in the baseline conditions of a feature of ecological importance that may occur because of individual and cumulative impacts during the construction and operational phases of a development.

6.9.12 These effects will be expressed in terms of geographical scale, using the same scale detailed above to define the importance of an ecological feature. The geographical scale at which an effect is significant can vary from the geographical importance of the ecological feature being assessed and in accordance with the CIEEM EclA guidelines, this will be a function of the assessment. For this assessment, effects at a Local scale or higher are defined as "*significant*".

6.9.13 Where a potential significant effect is identified, proposals for mitigation and compensation would be made with the aim of avoiding, preventing, reducing or, if possible, offsetting any identified significant adverse effects. Following the application of mitigation and compensation, the residual effect is presented within this chapter. Where further assessment or work is required to establish the significance of effect or to identify suitable mitigation and compensation, this has been presented within Section 6.11.

Air quality and ecological features

- 6.9.14 An air quality assessment in relation to ecological features will be undertaken for the construction phase of the English Onshore Scheme in accordance with appropriate guidance (as detailed below). Full details of the methodology for the air quality assessment, including modelling, is detailed within **Volume 1, Part 2, Chapter 14: Air Quality**. Methodology for the interpretation of the data and identification of potential impacts and significance of effects for ecological features are detailed below.
- 6.9.15 The air quality assessment will be undertaken in accordance with CIEEM guidance (Ref 6.48) to determine the impact of vehicle emissions at ecological features within 200 m of an affected road link. Ecological features for the air quality assessment include non-statutory (LWS, RNR, LWT or CWS) and statutory designated sites (LNR, NNR, SSSI, SPA, SAC and Ramsar) for nature conservation, and ancient woodland habitats.
- 6.9.16 For ecological features, concentrations of annual mean NO_x are used as the main basis for evaluating potential significant effects in relation to air quality. Where the annual mean NO_x concentration is below the 'critical level' of 30 µg/m³ within the English Onshore Scheme, then significant impacts are not anticipated. The Air Pollution Information System (APIS) cites the definition of the critical level as "*concentrations of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur according to present knowledge*" (Ref 6.49). Furthermore, if the critical level is exceeded with the English Onshore Scheme but the change in concentration is less than 1% of the critical level, the impact is considered imperceptible and unlikely to be significant. However, where the critical level is exceeded and the change is greater than 1%, the impact of nitrogen deposition needs to also be considered to determine the significance of effect.
- 6.9.17 The relevant assessment criterion for nitrogen deposition impacts is the 'critical load'. APIS cites the definition of the critical load as "*a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*" (Ref 6.49). Significance of effects are considered where the change in total nitrogen deposition (kg N/ha/yr.) in comparison to the baseline is greater than 1% of the critical load for the ecological feature (identified from the APIS website).
- 6.9.18 Concentrations of ammonia in the atmosphere can also have a potentially significant effect on ecological features. Similar to the assessment for nitrogen deposition, a 1% threshold will be used to determine the potential for significant effects. Significance of effect will be considered where the change in predicted atmospheric ammonia concentration (µg/m³) with the English Onshore Scheme in comparison to the future baseline is greater than 1% (as an absolute number) of the critical level for the site/habitat and the critical level is exceeded. The critical level for a designated habitat will be attributed based on those detailed within published guidance (Ref 6.43). An ammonia concentration critical level of 1µg/m³ will be set for designated habitats where highly sensitive plant species (i.e., lower plants such as bryophytes and lichen) are a component or qualifying feature. A critical level of 3µg/m³ ammonia will be used for designated habitats where only higher plants (vascular plants and trees) are a component or qualifying feature (Ref 6.50).
- 6.9.19 The level at which an impact is deemed significant will be based on professional judgement, in consideration of the magnitude of change in nitrogen deposition or ammonia concentration, the area of the ecological feature adversely impacted by the change in air quality and the potential impact this may have on the integrity of the ecological feature.

Habitats Regulations Assessment

- 6.9.20 In line with the Planning Inspectorate's Advice on Habitats Regulations Assessment (Ref 6.51), the relevant Secretary of State is the competent authority for the purposes of the Habitats Regulations. The Habitats Regulations require competent authorities, before granting consent for a plan or project, to carry out an Appropriate Assessment (AA) in circumstances where the plan or project is likely to have a potentially significant effect on a Habitats site¹⁹ (either alone or in combination with other plans or projects).
- 6.9.21 As a precursor to the production of an anticipated Habitats Regulations Assessment (HRA) Report, a HRA Screening has been undertaken and, in accordance with the Planning Inspectorate's Advice on Habitats Regulations Assessment, the screening will determine whether the Project may result in Likely Significant Effects (LSEs) on any designated site. A draft HRA Report, outlining the Screening assessment undertaken to date and covering both the English Onshore Scheme and the English Offshore Scheme components, is provided in **Volume 2, Part 1, Appendix 2.C: Habitats Regulations Assessment Screening Report**.

Preliminary assessment of cumulative effects

- 6.9.22 At the current stage of the Project (PEIR stage), design information for the Project is insufficient to allow for a robust cumulative assessment to be undertaken. Furthermore, given the current position in relation to baseline data collection, with much of the environmental surveys still to be undertaken during 2026, the baseline identified at this PEIR stage cannot be taken as a complete picture of the potential presence and significance of sensitive receptors. Therefore, a cumulative assessment has not been undertaken at this stage; however, **Volume 1, Part 4, Chapter 27: Cumulative Effects** and **Volume 2, Part 4, Appendix 27.A: Long List of other Developments** present the long and short lists of 'other developments' for the inter-project cumulative effects which will be considered at the ES stage (with updates as necessary), and the methodology which allowed for the identification of these other developments, to allow consultation bodies to form a view and provide comment on the other developments included. The long-list will be reviewed and if necessary, updated, in the lead up to the ES, as the Project design further evolves and in response to any comments raised at statutory consultation.
- 6.9.23 Intra-project cumulative effects result principally from different types of impacts from one development acting in combination on a specific receptor. In this chapter, the following combined effects on ecological features have been assessed:
- Intra-project cumulative effects arising from hydrology / water; also refer to **Volume 1, Part 2, Chapter 9: Water Environment** and **Chapter 10: Geology and Hydrology**;
 - Intra-project cumulative effects to groundwater dependent terrestrial ecosystems specifically; also refer to **Volume 1, Part 2, Chapter 10: Geology and Hydrology**;
 - Intra-project cumulative effects arising from noise and vibration; also refer to **Volume 1, Part 2, Chapter 13: Noise and Vibration**;
 - Intra-project cumulative effects arising from dust and traffic impacts; also refer to **Volume 1, Part 2, Chapter 14: Air Quality** (with traffic modelling detailed further in **Chapter 12: Traffic and Transport**);

¹⁹ form part of a network of protected sites across the UK known as the 'National Site Network'

- Intra-project cumulative effects to migratory fish species (such as salmon and lamprey); also refer to **Volume 1, Part 3, Chapter 19: Fish and Shellfish**; and
- Intra-project cumulative effects to intertidal habitats at the landfall (and species that may be supported, such as birds); also refer to **Volume 1, Part 3, Chapter 17: Coastal and Marine Physical Processes, Chapter 18: Intertidal and Subtidal Benthic Ecology, Chapter 19: Fish and Shellfish and Chapter 20: Intertidal and Offshore Ornithology**.

6.10 Preliminary Assessment of Biodiversity Effects

- 6.10.1 As detailed earlier within this chapter, baseline biodiversity data collection is ongoing, and data collected to date is limited primarily to UKHab and protected species habitat suitability assessment information. Further secondary ecological surveys, associated with the presence / likely absence and distribution of species, are to be carried out throughout 2026. As such, there is insufficient information to establish IEF for inclusion within the impact assessment. In the absence of a full ecological baseline, it is considered too early at this PEIR stage to make meaningful conclusions with regards to biodiversity effects and their significance for most ecological features without heavy reliance on assumption and / or caveats.
- 6.10.2 Where appropriate and where confidence exists at this PEIR stage, a high-level narrative of anticipated biodiversity effects for some ecological features are presented below:
- **Designated sites for nature conservation:** based on the Zols of the English Onshore Scheme, it is anticipated that there would be no significant construction or operation stage effects on local and national statutory and non-statutory designated sites for nature conservation beyond 500 m from the draft Order Limits (with reference to **Volume 2, Part 2, Appendix 6.B: Biodiversity Desk Study Report**).
 - **Reptiles:** based on habitat suitability established from field survey data collected to date and desk study analysis of those land parcels not yet visited, along with the implementation of embedded environmental measures (including precautionary working methods during site clearance; measure ID reference B14 (C), **Table 6-5**), potentially significant effects upon reptiles are not anticipated as a result of construction of the English Onshore Scheme.
 - **Terrestrial invertebrates:** based on habitat suitability established from field survey data collected to date and desk study analysis of those land parcels not yet visited, habitats mainly comprise arable farmland (negligible or low importance for terrestrial invertebrate assemblages) with limited distribution of habitats that are likely to support a terrestrial invertebrate assemblage of high value. In addition, it is assumed that the implementation of embedded mitigation measures as outlined in **Table 6-5** will avoid impacts on terrestrial invertebrates. As such, potential significant effects upon terrestrial invertebrates are not anticipated as a result of construction of the English Onshore Scheme.
 - **INNS:** with the implementation of embedded environmental measures (biosecurity controls; measure ID reference B24 (C), **Table 6-5**) during construction, potential significant effects as a result of the spread of INNS are not anticipated.
- 6.10.3 The statements presented above will be reviewed and a full and final account of the EclA presented within the ES, following completion of baseline data collection and analysis.

6.11 Further Work to be Undertaken

6.11.1 The information provided in this PEIR is preliminary, the final assessment of potentially significant effects will be reported in the ES. This section describes the further work to be undertaken to support the EclA presented in the ES.

Baseline

- 6.11.2 As detailed in paragraph 6.1.7, this chapter has been informed by a desk based assessment and preliminary field surveys that have consisted principally of preliminary habitat classification and species suitability assessments only. An extensive programme of further field survey is ongoing that will inform the assessment to be presented in the ES. A summary of the further survey to be completed is detailed below in **Table 6-10**. Surveys associated with LCS-B are anticipated to be undertaken by the Grimsby to Walpole Project team, with review and analysis of these data to be undertaken as part of the EclA for the English Onshore Scheme.
- 6.11.3 Further collaboration will be undertaken between the technical teams for the English Onshore Scheme and the English Offshore Scheme, notably for biodiversity and water, in relation to establishing the biodiversity baseline for the intertidal zone.
- 6.11.4 Discussions with key stakeholders (principally Natural England and the Environment Agency) regarding the survey programme and methodology are ongoing. The Applicant issued technical notes outlining the proposed approach to assessment (desk-based and field survey) for ornithology to Natural England on 26 January 2025.

Table 6-10 Scope of further field survey to be undertaken and completed

Ecological feature / survey type	Summary	Survey area	Survey status
PEA	UKHab, aquatic habitat assessment and protected species habitat suitability assessments.	Draft Order Limits plus 50 m.	Partially complete, approximately 40% of survey area. Commenced October 2025, with survey continuing over the winter months (2025 – 2026). Surveys ongoing to complete land parcels within the survey area and undertaken, where necessary, validation surveys for habitats assessed during winter months and outside the optimal botanical survey season.

Ecological feature / survey type	Summary	Survey area	Survey status
Hedgerow Regulations Assessment survey	Assessment of hedgerows against 'biodiversity' criteria, to identify those hedgerows that meet the criteria of 'important' under The Hedgerow Regulations (1997) (Ref 6.52).	Within the draft Order Limits (potentially limited to those hedgerows directly impacted by the English Onshore Scheme)	To be completed alongside PEA surveys, ongoing.
Arboricultural surveys	Assessment of arboricultural features in accordance with British Standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations (Ref 6.36) and Natural England and Forestry Commission 'Standing Advice' for ancient woodland, ancient trees and veteran trees: advice for making planning decisions (Ref 6.41).	Within the draft Order Limits plus 30 m buffer.	Commenced in January 2026, ongoing and anticipated to be completed in September 2026.
Birds (wintering, breeding, passage and intertidal)	Single vantage point at the landfall (through the tide count) and monthly transects along the cable route.	Within the draft Order Limits (or close to the relation to the transects).	Commenced in 2026, ongoing and anticipated to be completed in December 2026.
Bats – roosting suitability	GLTAs and PRAs of buildings / structures to determine their roosting suitability.	Indicative zone for underground cable assets or permanent infrastructure plus 50 m.	To be completed alongside PEA surveys, ongoing.
Bats – roosting suitability	Potential roosting feature aerial inspection survey, if required, to confirm roosting suitability classification (where this cannot be achieved from ground level).	Indicative zone for underground cable assets or permanent infrastructure plus 50 m.	To be undertaken in 2026 (if required).
Bats – roosting presence / likely absence (if required).	Limited to trees / buildings / structures directly impacted by the English Onshore Scheme (i.e., demolition / removal)	Within the draft Order Limits.	To be undertaken between May and August 2026, if required.

Ecological feature / survey type	Summary	Survey area	Survey status
	or if the structure is entirely surrounded by construction only.		
Bats – habitat suitability (foraging and commuting).	DBW surveys to assess habitat suitability. Notably focussed on potential converter station locations (permanent infrastructure).	Within draft Order Limits.	To be completed alongside PEA surveys, ongoing.
Bats – manual and automated activity surveys (general).	Static detector deployment across the cable route of the English Onshore Scheme and, if required, Night-time Bat Walkover and / or static detector deployment at EGL 5 converter station location.	Targeted locations within draft Order Limits.	To be undertaken between April and October 2026.
Bats – commuting route assessment.	To assess potential fragmentation and habitat severance impacts, surveys of linear habitats bisected by the English Onshore Scheme that may be used by commuting bats (hedgerows, treelines and woodland strips / edges) using the Department for Environment, Food and Rural Affairs Local Scale methods (Ref 6.42).	Targeted locations within draft Order Limits (pending consultation feedback from Natural England).	To be undertaken between May and September 2026.
Badger	Daytime walkover for signs of badger activity and any active setts. Where setts are identified, further camera trap and targeted surveys may be undertaken to establish activity and sett type.	Draft Order Limits plus 50 m.	To be completed alongside PEA surveys, ongoing. Camera traps and targeted surveys to be completed in 2026 (no seasonal restrictions).
Otter	Survey of watercourses and / or potentially suitable habitat for the water vole.	Within draft Order Limits and up to 250 m, in combination with water vole.	To be undertaken in 2026 (no seasonal restrictions).

Ecological feature / survey type	Summary	Survey area	Survey status
	presence of resting places.		
Water vole	Survey of water courses for the presence of water vole.	Draft Order Limits up to 250 m, in combination with otter.	To be undertaken between April and September 2026.
Great crested newt – habitat suitability	Habitat Suitability Assessments (HSI) of ponds / waterbodies and ditches.	Draft Order Limits plus 250 m.	To be completed alongside PEA surveys, ongoing.
Great crested newt – presence / likely absence	Environmental DNA (eDNA) surveys or, where eDNA is inconclusive, conventional presence / likely absence surveys using techniques such as bottle trapping and torchlight survey.	Draft Order Limits plus 250 m.	To be undertaken between 15 April and 30 June (eDNA) 2026 or mid-March to mid-June (conventional surveys) 2026.
Fish – eDNA	Environmental DNA surveys analysing for fish communities to efficiently detect the presence or absence of fish using trace eDNA. A non-intrusive method for establishing baseline datasets where conventional surveys are limited. Survey will also identify the presence of INNS fish.	Draft Order Limits plus 250 m.	To be undertaken between May and September 2026 when fish activity is at its greatest. This is an optimal window and can be undertaken outside of this period.
Fish – Electrofishing	Electrofishing surveys targeting lotic habitats for fish communities and biodiversity providing qualitative data using standardised EA methods. Survey will also identify / quantify the presence of INNS fish.	Draft Order Limits plus 250 m.	To be undertaken in survey window June to October 2026.
Aquatic macroinvertebrates (general) – eDNA	Environmental DNA (eDNA) surveys targeting a general aquatic macroinvertebrate	Draft Order Limits plus 250 m.	To be undertaken between May and September 2026.

Ecological feature / survey type	Summary	Survey area	Survey status
	<p>community to efficiently detect the presence or absence of macroinvertebrates using trace eDNA. A non-intrusive method for establishing baseline datasets where conventional surveys are limited.</p> <p>Survey will also identify the presence of INNS macroinvertebrates.</p>		
Aquatic macroinvertebrates (general) – Collection	<p>Aquatic macroinvertebrate survey collects community samples to assess biodiversity and capture seasonal variation in communities, providing a robust ecological assessment.</p> <p>Survey will also identify / quantify the presence of INNS fish.</p>	Draft Order Limits plus 250 m.	To be undertaken in two survey windows (spring and autumn) March to May 2026, and September to November 2026.
Aquatic Macroinvertebrates (bivalves) – eDNA	<p>Environmental DNA (eDNA) surveys targeting the Bivalvia class to efficiently detect the presence or absence of bivalves using trace eDNA. A non-intrusive method for establishing baseline datasets where conventional surveys are limited.</p> <p>Survey will also identify the presence of INNS bivalves.</p>	Draft Order Limits plus 250 m.	To be undertaken between May and September 2026.
Macrophytes	<p>Macrophyte survey to assess biodiversity among aquatic plant communities, to assess the composition, diversity and condition of aquatic plant communities using</p>	Draft Order Limits plus 250 m.	To be undertaken in survey window June to September 2026.

Ecological feature / survey type	Summary	Survey area	Survey status
	<p>standardised LEAFPACS2 methodology to inform ecological status.</p> <p>Survey will also identify / quantify the presence of INNS macrophytes.</p>		
PSYM (pond survey)	<p>'Predictive system for multimetrics' survey analysing ecological quality of ponds, by surveying aquatic plants and macroinvertebrates, generating multimetric indices that indicate habitat condition and sensitivity to degradation.</p> <p>Survey will also identify / quantify the presence of INNS macrophytes / macroinvertebrates.</p>	Within the draft Order Limits.	To be undertaken in survey window June to August 2026.
Rapid Assessment (pond survey)	Methodology for rapid biological quality assessment of ponds.	Within the buffer between the draft Order Limits plus 50 m.	To be undertaken in survey window June to August 2026.

Assessment

6.11.5 As detailed earlier in this chapter, a full impact assessment will be presented in the ES and will follow the methodology provided in Section 6.4. However, it will be informed by the baseline data collection, evolved design, further stakeholder consultation and detailed analysis from other environmental disciplines. As part of the ecological impact assessment within the ES, the following notable specific assessments will be undertaken:

- Identification and assessment of potential impacts on designated sites for nature conservation which are hydrologically connected to habitats within the draft Order Limits.
- Assessment of whether habitat severance could impact protected and notable species populations and priority and irreplaceable habitats by changing the functionality of habitat networks at a landscape scale.
- Assessment of air quality impacts (nitrogen deposition and ammonia concentration) on ecological features including designated sites for nature conservation within 200 m of the draft Order Limits.
- Assessment of potential impacts from temporary and permanent habitat loss, noise and visual disturbance on ecological features including designated sites for nature conservation.

- Assessment of potential impacts to protected species populations from nighttime lighting throughout the cable route corridor during construction.
 - Assessment of potential impacts to terrestrial habitats from bentonite breakout when trenchless methods are used for cable installation.
- 6.11.6 As baseline data collection and analysis progresses, further work will be undertaken to explore opportunities to avoid IEF through design (the first step of the mitigation hierarchy). Where avoidance is not possible, mitigation measures will be identified to reduce the impacts of the English Onshore Scheme on IEF.
- 6.11.7 A HRA Report for the Project, covering both the English Onshore Scheme and the English Offshore Scheme, will also be prepared to sit alongside the ES. A draft HRA Report has been prepared to accompany this PEIR outlining the Screening assessment undertaken to date, although similar limitations to this chapter apply (i.e., prepared in the absence of full baseline survey information). In addition, as identified within the draft HRA Report, the assessment is subject to assumptions. Full details are presented in **Volume 2, Part 1, Appendix 2.C: Habitats Regulations Assessment Screening Report**.
- 6.11.8 There is a commitment to delivering BNG for the English Onshore Scheme as previously highlighted during Scoping. It is anticipated that BNG delivery will become mandatory under the Environment Act (EA 2021) (Ref 6.53) for DCO applications from May 2026. A BNG equivalent to 10% above the existing baseline will be built into the English Onshore Scheme through the design process. This may entail both on-site and off-site habitat compensation. UKHab surveys and BNG unit calculations are ongoing following a staged approach to assessment in order to inform the design and discussions on ecological compensation in line with the Biodiversity Gain Hierarchy. However, it is acknowledged that the awaited government's guidance ahead of the mandatory commencement date has not yet been issued and therefore the approach to BNG assessment and delivery will be kept under review and the final BNG approach for the English Onshore Scheme will be revised in line with the latest guidance.

Further environmental measures

- 6.11.9 As detailed within Section 6.6, given the current position in relation to baseline data collection, with much of the ecological field surveys to be undertaken during 2026, it is anticipated that further additional measures will be added and / or refinement of existing measures will be made in response to further baseline data collection. A full account of the impact assessment and proposed mitigation and compensation measures will be presented within the ES.
- 6.11.10 Further consultation with relevant statutory consultees will be undertaken to define the scope and extents of the environmental measures set out in the assessment above. If, following stakeholder consultation feedback, further design refinement and further assessment, it is identified that additional measures are required, these will be detailed as part of the ES.
- 6.11.11 The landfall environment is recognised as a location of heightened sensitivity due to its proximity to the Greater Wash SPA and habitats that may support qualifying bird species (potentially FLL). Further work is to be undertaken to identify appropriate mitigation for birds, as required and in response to the results of further baseline bird surveys and potential impacts and effects. The Applicant is notably engaging with Natural England in relation to identifying potential mitigation opportunities associated with qualifying bird species of the coastal SPA / Ramsar sites both at the landfall and the wider Project's extent.

6.11.12 Further refinement of the limits of deviation is anticipated to explore the implementation of appropriate stand-off buffers from sensitive habitats (such as hedgerows, woodland, watercourses and ditches).

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