

The Great Grid Upgrade

Chesterfield to Willington

Preliminary Environmental Information Report

Volume 1: Chapter 7 Ecology and Biodiversity

March 2026

nationalgrid

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7. Ecology and Biodiversity

7.1 Overview

7.1.1 This chapter reports the preliminary assessment of the likely significant ecology and biodiversity effects that could result from the Chesterfield to Willington Project (the 'Project') during construction and operation, and describes:

- relevant legislation and planning policy context;
- consultation and engagement undertaken to date;
- the methodology for assessment;
- relevant baseline information;
- potential effects of the construction phase;
- potential effects of the operational phase;
- potential additional mitigation measures and monitoring requirements; and
- residual effects.

7.1.2 This chapter covers effects on the following receptors during construction and operation:

- statutory designated sites of international importance;
- statutory designated sites of national and local importance;
- non-statutory designated sites;
- habitats (ancient woodland, Habitats of Principal Importance (HPI), and watercourses); and
- protected/notable species.

7.1.3 This chapter should be read in conjunction with the following chapters:

- **Chapter 4 Description of the Project.**
- **Chapter 5 Approach to Preliminary Environmental Information Report.**
- **Chapter 6 Landscape and Visual**, due to the close association between some landscape receptors and ecological features (habitats/flora) and the potential for overlapping embedded environmental measures.
- **Chapter 9 Hydrology and Land Drainage**, due to the close association between some habitats, flora and fauna, and local hydrology.
- **Chapter 10 Geology and Hydrogeology**, which includes consideration of groundwater and hydrological linkage.
- **Chapter 11 Agriculture and Soils**, due to the close association between soil and ecosystem factors.
- **Chapter 12 Traffic and Transport**, due to the potential for emissions.

- **Chapter 13 Air Quality**, in relation to the scope of assessment for the Project associated with air quality impacts and designated sites for nature conservation.
- **Chapter 14 Noise and Vibration**, due to potential for noise and vibration to adversely affect ecological receptors.
- **Chapter 17 Cumulative Effects**. This chapter includes both the combined and cumulative effects on ecology and biodiversity, alongside with other topic areas and other committed schemes.

7.1.4 This chapter is supported by the following figures in **Volume 2**:

- **Figure 7.1 International Sites Designated for Biodiversity within 20km (scoped in)**;
- **Figure 7.2 Statutory Designated Sites of National and Local Importance**;
- **Figure 7.3 Non-Statutory Designated Sites**;
- **Figure 7.4 Habitats of Principal Importance, Ancient Woodland and Ancient and Veteran Trees**; and
- **Figure 7.5 UK Habitat Classification Map**.

7.2 Legislation, and Planning Policy and Guidance Context

7.2.1 A summary of the key legislation considered in the scope of effects on ecology and biodiversity is outlined below:

- The Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') (Ref 7.1) implement the Habitats Directive (EC Directive 92/43/EEC) and elements of the Birds Directive (EC Directive 79/409/EEC). The Habitats Regulations transpose these directives into English and Welsh legislation under which a national site network for both terrestrial and marine biodiversity has been established. The Habitats Regulations also detail the process by which competent authorities must determine whether a plan or project is likely to have a significant effect on a European Site. This includes the requirement for appropriate assessment and the further stages where alternatives need to be considered. It must also be determined whether the plan presents imperative reasons of overriding public interest which must be met despite unavoidable or unmitigable effects to a site or sites hosting priority habitats or species. In addition, Regulation 55 requires '*licences for certain activities relating to animals or plants*', where activities could lead to adverse effects on species identified by the Habitats Regulations;
- Wildlife and Countryside Act 1981 (as amended) (Ref 7.2) is the primary legislation for the protection of animals, plants and habitats in the UK;
- Natural Environment and Rural Communities Act 2006 (Ref 7.3) amends the Wildlife & Countryside Act 1981 (as amended). This Act dissolved English Nature and the Countryside Agency, transferring their functions to the independent body Natural England which is responsible for conserving, enhancing and managing England's natural environment. The Act also introduced the biodiversity duty that public authorities must have regard for the conservation and enhancement of biodiversity. It includes a list of the living organisms and types of habitat considered to be of principal importance for conservation, which are referred to as Habitats/Species of Principal Importance;

- Countryside and Rights of Way Act 2000 (Ref 7.4) amends the Wildlife and Countryside Act 1981 and strengthens protection to wildlife, natural features and Sites of Special Scientific Interest (SSSIs) and wildlife enforcement legislation;
- Protection of Badgers Act 1992 (Ref 7.5) makes it an offence to take, kill, injure, possess or ill-treat a badger. It also protects badger setts from intentional or reckless interference, such as damaging or destroying the sett, obstructing access to the sett, or disturbance of a badger within a sett;
- The Hedgerows Regulations 1997 (Ref 7.6) protect hedgerows and regulate their removal and replacement. A higher level of protection is afforded to hedgerows which qualify as 'important' when assessed against specified criteria provided by those regulations;
- The Management of Hedgerows (England) Regulations 2024 (Ref 7.7) implement rules to protect hedgerows on agricultural land, including the establishment of buffer strips, and seasonal restrictions on when hedgerow cutting/trimming may take place;
- Wild Mammals (Protection) Act 1996 (Ref 7.8) makes it an offence to mutilate, kick, beat, nail (or otherwise impale), stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering;
- Salmon and Freshwater Fisheries Act 1975 (Ref 7.9) details the regulation of fisheries in England and Wales. Under this act it is an offence to cause or knowingly permit to flow, or put or knowingly permit to be put, into any waters containing fish, any liquid or solid matter to such an extent as to cause the waters to be poisonous or injurious to fish or the spawning grounds, spawn or food of fish. It also includes legislation relating to the obstruction of fish passage;
- The Eels (England and Wales) Regulations 2009 (Ref 7.10) give powers to regulators (Environment Agency) to implement recovery measures for eel (*Anguilla anguilla*) in all freshwater and estuarine waters in England and Wales. Such measures include reducing fishing pressures, improving access and habitat quality, and reducing the impact of impingement and entrainment;
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 7.11) seek to establish an integrated approach to the protection and sustainable use of the water environment;
- Environment Act 2021 (Ref 7.12) amends the Wildlife & Countryside Act 1981 (as amended), setting out targets, plans and policies for the natural environment including the mandatory requirement for a 10 per cent biodiversity net gain;
- The Invasive Alien Species (Enforcement and Permitting) Order 2019 (Ref 7.13) lists species which are of special concern and make it an offence to import, keep, breed, transport, place on the market, exchange, allow to grow, cultivate or reproduce, or release into the environment any of the listed species;
- The Town and Country Planning (Trees) Regulations 1999 (Ref 7.14) govern the preservation, planting and maintenance of trees, primarily focusing on protecting trees through the use of Tree Preservation Orders (TPOs); and
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 (Ref 7.15) amend the Town and Country Planning Act 1990 and define '*irreplaceable habitats*' which are those that are difficult to recreate. These regulations state that development resulting in the loss of irreplaceable habitat is only permitted in exceptional circumstances and requires a specific compensation strategy.

National Policy Statements

- 7.2.2 **Chapter 2 Legislative, Regulatory and Planning Policy Context** sets out the overarching policies relevant to the Project including the Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 7.16) and the NPS for Electricity Networks Infrastructure (EN-5) (Ref 7.18). **Table 7.1** sets out the requirements of both NPSs relevant to ecology and biodiversity and how these have been considered within this chapter¹.

¹ The updated NPSs came into force on 6 January 2026; however, this post-dated the drafting and assessment work within this chapter and so are not reflected within the relevant policy descriptions in this chapter, which are instead based on the 2023 versions of the NPSs that were in force at the time of preparing the Chapter. These sections will be updated in the ES as part of the Application; however, after initial review and consideration, it is not anticipated that the updates to the NPS will result in any material changes to the assessment methodology or the conclusions in this chapter.

Table 7.1: National Policy Statements relevant to ecology and biodiversity

Policy Reference	Policy Context	How it will be Considered
Overarching National Policy Statement for Energy (EN-1)		
4.6 Environmental and Biodiversity Net Gain	Energy Nationally Significant Infrastructure Projects (NSIP) proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.	National Grid Electricity Transmission plc (National Grid) has committed to 10 per cent Environmental Gain, including, as a minimum, 10 per cent Biodiversity Net Gain (BNG) across all its construction projects, including the Project. In addition, National Grid’s Environmental Action Plan 2021-2026 (Ref 7.17) makes a commitment to achieving at least 10 per cent Environmental Gain (including biodiversity) on all construction projects by 2026.
5.4 Biodiversity and Geological Conservation	<p><i>‘The applicant should ensure that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological [...] importance [...] on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity.’</i></p> <p>Protected species: consent should not be granted where harm to a protected species and relevant habitat would result, unless there is an overriding public interest and the other relevant legal tests are met. Species of Principal Importance (SPI) and HPI should be protected from the adverse effects of development. The applicant should demonstrate that ‘during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements’ and <i>‘habitats will, where practicable, be restored after construction works have finished’</i>.</p>	<p>Sites designated for their ecological importance, HPI and the presence of protected and/or notable species have been identified when establishing baseline conditions. The mitigation hierarchy has been followed and where reasonably practicable the proposed route alignment has been sited to avoid ecologically sensitive sites.</p> <p>A preliminary assessment of the likely effects has been completed within this chapter (section 7.7). A full assessment will be provided within the Environmental Statement (ES).</p>

Policy Reference	Policy Context	How it will be Considered
5.4 Biodiversity and Geological Conservation Paragraph 5.4.25	<i>'The applicant should...provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether a HRA Appropriate Assessment (AA) is required [...] If an AA is required, the applicant must provide the Secretary of State with such information as may reasonably be required to enable the Secretary of State to conduct the AA.'</i>	A shadow Habitats Regulations Assessment (HRA) Screening will be undertaken to determine whether the Project may result in Likely Significant Effects (LSEs) to European sites. If required following the conclusions of the Screening, the shadow HRA will also include an AA.
5.4 Biodiversity and Geological Conservation Paragraph 5.4.32	<i>'Applicants should include measures to mitigate fully the direct and indirect effects of development on ancient woodland, ancient and veteran trees or other irreplaceable habitats during both construction and operational phases.'</i>	Locations of ancient woodland, ancient and veteran trees or other irreplaceable habitats have been identified when establishing baseline conditions. Where reasonably practicable, the proposed route alignment has been sited to avoid these areas. A preliminary assessment of the likely effects has been completed within this chapter (section 7.7). A full assessment will be provided within the ES, which will include measures to mitigate effects to ancient woodland, ancient and veteran trees, or other irreplaceable habitats as required.
5.12 Noise and Vibration Paragraph 5.12.10	The applicant should consult the Environmental Agency and/or Statutory Nature Conservation Bodies, and any other relevant bodies, where necessary in regard to the assessment of noise on protected species or other wildlife.	Engagement has been held with the relevant stakeholders to date (Table 7.4). Further consultation will be carried out as necessary throughout the Project timeline, including with the Environment Agency. The potential for effects as a result of noise on protected species has been considered on a preliminary basis in section 7.7 and will be assessed in full within the ES. Potential effects as a result of noise and vibration on other receptors are detailed within Chapter 14 Noise and Vibration .

Policy Reference	Policy Context	How it will be Considered
National Policy Statement for Electricity Networks (EN-5)		
2.9 Applicant assessment Paragraph 2.9.3 – 2.9.6	Sets the context for the applicant’s assessment to consider potential adverse effects on birdlife. It notes that consideration needs to be made of the potential for large birds to collide with overhead lines during flight or be electrocuted when perching, both with the potential to cause injury/death. If there is a risk of this occurring, measures should be implemented to avoid or minimise this, including siting, visibility and design of lines and other infrastructure. This should be considered in the preparation of the ES.	Breeding and wintering bird surveys are being carried out to establish baseline conditions. The proposed route alignment has been sited to avoid sites with ornithological interest wherever practicable. A preliminary assessment of the potential effects to birds is included in this report, with a full assessment to be provided in the ES, alongside measures to avoid or minimise any effects should they be necessary.
2.5 Environmental and Biodiversity Net Gain Paragraph 2.5.1	<p>States ‘<i>When planning and evaluating the proposed development’s contribution to environmental and biodiversity net gain, it will be important – for both the applicant and the Secretary of State – to supplement the generic guidance set out in EN-1 (Section 4.6) [Environmental and Biodiversity Net Gain] with recognition that the linear nature of electricity networks infrastructure can allow excellent opportunities to:</i></p> <ul style="list-style-type: none"> <li data-bbox="546 978 1328 1090">i) <i>reconnect important habitats via green corridors, biodiversity stepping zones, and reestablishment of appropriate hedgerows; and/or</i> <li data-bbox="546 1098 1335 1201">ii) <i>connect people to the environment, for instance via footpaths and cycleways constructed in tandem with biodiversity enhancements.’</i> 	<p>Habitats lost during construction will be reinstated wherever practicable, including the reestablishment of hedgerows along the proposed route alignment. Discussions will be held with relevant stakeholders such as Derbyshire County Council to identify key opportunities for improvements to biodiversity in the local area, including improvements to habitat connectivity.</p> <p>A BNG strategy will be produced detailing how the Project will deliver BNG, to be appended to the ES.</p>

Other National Policy

7.2.3 Other relevant national policy considered in the scope of effects on ecology and biodiversity includes the following:

- National Planning Policy Framework (Ref 7.19) in which section 15 focuses on the natural environment, requiring planning policies and decisions to contribute to and enhance the natural and local environment. It provides a list of principles that local planning authorities (LPAs) should apply when determining planning applications.
- UK Biodiversity Framework 2024 (Ref 7.20). An agreement between England, Scotland, Wales and Northern Ireland to coordinate efforts to protect biodiversity. The framework establishes objectives to meet the UK's international obligations on nature recovery.
- A Green Future: Our 25 Year Plan to Improve the Environment (Ref 7.21). Sets out the government's goals for improving the environment within a generation.

Regional and Local Policy

7.2.4 **Chapter 2 Legislative, Regulatory and Planning Policy Context** sets out relevant regional and local policy considered by the Project. Local policy relevant to this chapter includes:

- Biodiversity – The UK Action Plan (UKBAP) (Ref 7.22);
- Lowland Derbyshire Biodiversity Action Plan (BAP), 2011-2020 (Ref 7.23);
- South Derbyshire Action Plan for Nature 2021 (Ref 7.24); and
- Bolsover District Council Local Nature Recovery Action Plan 2023 (Ref 7.25).

7.2.5 In addition, Derbyshire's Local Nature Recovery Strategy (LNRS) (Ref 7.26) sets out the long-term plan for enhancing nature and biodiversity in Derbyshire. This has been developed in consideration of the National Environmental Objectives which are drawn from the Environment Act 2021 (Ref 7.12) and the government's Environmental Improvement Plan (Ref 7.27).

7.2.6 Derbyshire's LNRS sets out the current state of nature within the county and the opportunities for nature recovery within each of its National Character Areas. The Project lies partially within three of these areas:

- Nottinghamshire, Derbyshire & Yorkshire Coalfield;
- Peak Fringe & Lower Derwent; and
- Trent Valley Washlands.

7.2.7 The LNRS details the characteristics and key opportunities for nature recovery within each area. It sets out priorities (outcomes) for nature recovery and the measures (actions) required to achieve these outcomes. The outcomes are broadly grouped as follows:

- upland moorland and lowland heath;
- woodland and trees;
- grassland;

- rivers, river corridors, and other watercourses;
- farmland;
- wetlands;
- urban environment and infrastructure;
- people and wildlife; and
- species and species assemblages.

7.2.8 The LNRS was published in October 2025, therefore the priorities listed in it were not known during the early development of the Project. However, these will be considered during all further development of the Project to identify opportunities where the Project may assist or complement the measures.

Guidance

7.2.9 Relevant guidance, specific to ecology and biodiversity, that has informed this PEIR and will inform the assessment within the ES, includes:

- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3 (Ref 7.28);
- CIEEM Guidelines for Preliminary Ecological Appraisal: Second Edition (Ref 7.29);
- British Standard (BS) 42020:2013. Biodiversity: Code of practice for planning and development (Ref 7.30);
- Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (Ref 7.31);
- IAQM Nature Conservation Sites Guidance on the assessment of air quality impacts on designated nature conservation sites (Ref 7.32)
- Construction Industry Research and Information Association (CIRIA) Biodiversity Net Gain: Good Practice Principles for Development (Ref 7.33);
- CIRIA – Biodiversity Net Gain: Good Practice Principles for Development - a practical guide (Ref 7.34);
- BS 8683:2021 – Process for designing and implementing Biodiversity Net Gain – Specification (Ref 7.35);
- UK Habitat (UKHab) classification guidance (Ref 7.36);
- Bat Surveys for Professional Ecologists, Good Practice Guidelines (Ref 7.37);
- Bats and Artificial Lighting in the UK, Guidance Note 08/23 (Ref 7.38);
- Badger Protection: Best practice guidance for developers, ecologists and planners (England) (Ref 7.39);
- The Water Vole Mitigation Handbook (Ref 7.40);
- BS 5837:2012 Trees in relation to design, demolition and construction. (Ref 7.41);
- Restoration of riverine salmon habitats (Ref 7.42);

- Biology and Management of Anguillid Eels (Ref 7.43); and
- Guidance on Habitat for White-clawed Crayfish (Ref 7.44).

7.3 Scoping Opinion and Consultation

Scoping Opinion and Stakeholder Engagement

- 7.3.1 A Scoping Report (Ref 7.45) was prepared and submitted by National Grid to the Planning Inspectorate in October 2024. The Planning Inspectorate provided a Scoping Opinion on behalf of the Secretary of State for Energy Security and Net Zero in December 2024. Responses from the Planning Inspectorate in relation to ecology and biodiversity and how these requirements will be addressed by the applicant are set out in **Table 7.2**.

Table 7.2: Summary of Planning Inspectorate’s Scoping Opinion comments in relation to ecology and biodiversity

Scoping Opinion ID	Planning Inspectorate’s Comments	Response
3.2.1	The Scoping Report scoped out the River Mease Special Area of Conservation (SAC) – Operation (including maintenance). The Planning Inspectorate agreed that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Impacts to the River Mease SAC during operation have been scoped out of this assessment.
3.2.2	The Scoping Report scoped out the South Pennine Moors SAC, Gang Mine SAC, Bees Nest & Green Clay Pits SAC and Birklands & Bilhaugh SAC – Construction and Operation (including maintenance). Due to distance from the Proposed Works, the Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Impacts to these SACs during construction and operation have been scoped out of this assessment.
3.2.3	The Scoping Report scoped out the Peak District Dales SAC – Construction and Operation (including maintenance). The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Impacts to the Peak District Dales SAC during construction and operation have been scoped out of this assessment.
3.2.4	The Scoping Report scoped out Morley Brick Pits SSSI – Operation (including maintenance). The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Impacts to Morley Brick Pits SSSI during operation have been scoped out of this assessment.

Scoping Opinion ID	Planning Inspectorate's Comments	Response
3.2.5	The Scoping Report scoped out other national sites designated for biodiversity (14 SSSIs and one National Nature Reserve (NNR)) – Operation (including maintenance). The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Impacts to these sites during operation have been scoped out of this assessment.
3.2.6	The Scoping Report scoped out Aston Brickyard Plantation Local Nature Reserve (LNR), Williamthorpe LNR and Oakerthorpe LNR – Operation (including maintenance). The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of this ES.	Noted. Impacts to these LNRs during operation have been scoped out of this assessment.
3.2.7	The Scoping Report scoped out other local sites designated for biodiversity (LNRs) within 2 km – Operation (including maintenance). The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of this ES.	Noted. Impacts to other local sites during operation have been scoped out of this assessment.
3.2.8	The Scoping Report scoped out 60 Local Wildlife Sites (LWSs), 21 potential LWSs (pLWSs) and three Derbyshire Wildlife Trust (DWT) reserves within the Scoping Boundary – Operation (including maintenance). The Planning Inspectorate agreed that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. The Scoping Boundary has since been refined and amended to form the draft Order Limits. 15 LWSs and six pLWSs now lie within the draft Order Limits. In consideration of updates to the Project design, impacts to LWSs within the draft Order Limits as a result of maintenance activities during operation have been scoped in to this assessment, as detailed in section 7.7.
3.2.9	The Scoping Report scoped out 194 LWSs, 74 pLWSs and nine DWT reserves outside the Scoping Boundary – Operation (including maintenance).	Noted. The Scoping Boundary has since been refined and amended to form the draft Order Limits. Additional LWSs, pLWSs and DWT reserves now lie outside the draft Order Limits. In line with the Scoping Report and comment received, impacts to all LWSs, pLWSs and DWT reserves outside the draft Order Limits during operation (including maintenance) have been scoped

Scoping Opinion ID	Planning Inspectorate's Comments	Response
3.2.10	The Scoping Report scoped out operational effects on ancient woodland, Habitats of Principal Importance, hedgerows, trees and vascular, non-vascular plants and fungi. The Inspectorate agrees that significant effects are not likely and that operational effects on these receptors can be scoped out of the ES.	out of this assessment on the basis there are no perceivable pathways to impact these sites during operation.
3.2.11	The Scoping Report scoped out construction and operational (including maintenance) effects on pine marten due to the species being largely absent from the Scoping Boundary. The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted. Effects on pine marten during construction and operation (including maintenance) have been scoped out of this assessment.
3.2.12	The Scoping Report proposed to scope out construction and operational (including maintenance) effects on other notable mammals including the SPIs brown hare, hedgehog and harvest mouse. Provided the reinstatement of habitats can be demonstrably secured, the Inspectorate agrees that significant effects are not likely (except for brown hare) and that this matter can be scoped out of the ES. The Inspectorate notes that an ' <i>Increase in vehicles and new haul road resulting in an increased risk of collisions</i> ' will impact brown hare and therefore expects an assessment of impacts on this species, as proposed.	Noted. This element has been scoped out of this assessment (with the exception of brown hare). The reinstatement of habitat post-construction will be secured through an Outline Landscape and Ecological Management Plan to be produced alongside the ES. A preliminary assessment of effects on brown hare has been included within section 7.7 of this chapter. A full impact assessment will be presented within the ES following completion of all surveys and assessments.
3.2.13	The Inspectorate raised that the Scoping Report identified the potential use of underground cabling and at present, it is unknown where these would be located. Should underground cabling cross rivers, electromagnetic fields may impact migratory behaviour and egg/fry development of fish, where significant effects are likely.	Noted. Chapter 4 Description of the Project provides further clarification on the potential requirement for underground cables. The ES will confirm where underground cabling would be located. The Project will be designed in accordance with National Grid's

Scoping Opinion ID	Planning Inspectorate's Comments	Response
		<p>design standards and would be compliant with guidelines and policies relating to electric and magnetic fields stated within EN-5 (Ref 7.18). The design standards and guidelines are included as design embedded mitigation measures, which are further detailed within Chapter 4 Description of the Project. In addition, an Electric and Magnetic Fields report will be prepared as part of the Development Consent Order (DCO) application but separate from the EIA process.</p> <p>A preliminary assessment of effects in relation to aquatic receptors that include fish (including migratory) species as well as other notable freshwater species and assemblages (such as macroinvertebrates and macrophytes) has been provided within section 7.7 of this report. A full impact assessment will be detailed within the ES following completion of all surveys and assessments.</p>
3.2.14	<p>The Inspectorate raised that in relation to ancient woodland, the Applicant should monitor the ongoing updates to the Ancient Woodland Inventory described by the Forestry Commission, in order to inform the environmental baseline.</p>	<p>Noted. The Ancient Woodland Inventory will be monitored for updates throughout the ES timeline and any changes considered in the ES.</p>
3.2.15	<p>The Inspectorate raised that specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.</p>	<p>Noted. Confidential annexes will be provided as part of the ES for those species where confidentiality is required. Reference to confidential annexes will be provided within the ES chapter where necessary.</p>

Scoping Opinion ID	Planning Inspectorate's Comments	Response
3.2.16	The Inspectorate raised that the Scoping Report identified the potential use of DLL (District Level Licensing) for great crested newt (GCN) and therefore the ES should include information to demonstrate whether the Project is located within a risk zone for GCN. If the Applicant enters into the DLL scheme, Natural England will undertake an impact assessment and inform the Applicant whether their scheme is within one of the amber risk zones. The outcome of this assessment will be documented in an Impact Assessment and Conservation Payment Certificate. This can be used to inform the findings in the ES, by giving information on the impact on GCN and the appropriate compensation required.	Noted. The draft Order Limits lie within amber and green risk zones for GCN only. The use of DLL for the Project has been discussed with Natural England. Natural England has confirmed that DLL can be applied for the Project. This will be further addressed within the ES.

7.3.2 **Table 7.3** provides a summary of the consultation feedback from specific stakeholders provided as part of the Scoping Opinion (December 2024) to inform the ecology and biodiversity assessment to date.

Table 7.3: Summary of stakeholder stage 1 (non-statutory) consultation in relation to ecology and biodiversity

Consultee	Summary of Key Topics Raised	Response
Canal & River Trust	Highlighted that the canal is a valuable wildlife habitat and supports protected species, and that impacts on biodiversity associated with the canal should be considered.	The design of the Project has aimed to avoid sensitive sites and habitats wherever practicable (as detailed in Chapter 5 of the DDR and Chapter 3 Main Alternatives Considered). Impacts to watercourses, including canals, have been considered on a preliminary basis within this PEIR and will be assessed in full within the ES.
North East Derbyshire District Council	Highlighted the potential for impacts to Ogston Reservoir SSSI due its proximity to the Project and the risk to bird species.	The design of the Project has aimed to avoid sensitive sites and habitats wherever practicable. As a result of feedback received at Stage 1 consultation (as detailed in Chapter 5 of the DDR and Chapter 3 Main Alternatives Considered), the draft Order Limits now lie 3.15 km east of Ogston Reservoir SSSI. Impacts to Ogston Reservoir and bird species have been included on a preliminary basis in this PEIR, and a full assessment will be presented in the ES alongside any additional mitigation measures, if required.

Consultee	Summary of Key Topics Raised	Response
Peak District National Park	Raised the potential for impacts to qualifying bird species of the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) and South Pennine and Peak District Moors Important Bird Area due to collision with overhead lines.	Surveys for wintering and breeding birds are being carried out (October 2024 – April 2026) to support the assessment of potential effects to birds as a result of the Project. The results of these surveys will inform a shadow HRA to be produced alongside the ES, which will determine the potential for significant effects to the Peak District Moors (South Pennine Moors Phase 1) SPA and will include an AA, if required. A preliminary assessment of impacts to the SPA has been included in this PEIR and a full assessment will be provided within the ES.
Derbyshire County Council	Detailed the potential for impacts to a wide variety of habitats and sensitive sites, particularly noting effects to flight lines for birds associated with Ogston Reservoir SSSI, Williamthorpe LNR and sites along the Trent Valley.	The design of the Project has aimed to avoid sensitive sites and habitats wherever practicable. As a result of feedback received at Stage 1 consultation (as detailed in DDR Chapter 5 and Chapter 3 Main Alternatives Considered), the draft Order Limits now lie 3.15 km east of Ogston Reservoir SSSI. Effects to sensitive sites, habitats and species including birds have been considered on a preliminary basis within this PEIR and will be assessed in full within the ES.
South Derbyshire District Council	Highlighted the need to consider impacts to biodiversity and that trees and hedgerows should be retained and enhanced wherever possible.	Impacts to biodiversity have been considered on a preliminary basis within this PEIR and will be assessed in full within the ES. The design of the Project has aimed to avoid trees and hedgerows wherever practicable. Where impacts to trees or hedgerows are unavoidable, such impacts will be assessed in detail within the ES, including an arboricultural impact assessment (AIA). Opportunities for the enhancement of trees and hedgerows will be explored in collaboration with the relevant stakeholders.
Woodland Trust	Acknowledged that the proposed route alignment had been sited to avoid direct impacts to ancient woodland and detailed potential impacts to ancient woodland should electricity transmission	The potential for impacts to ancient woodland and ancient or veteran trees has been considered on a preliminary basis within this PEIR and will be assessed in full within the ES. The data from surveys completed to date are

Consultee	Summary of Key Topics Raised	Response
	<p>infrastructure be built in close proximity. Stated that a buffer zone of at least 15 m from ancient woodland should be allowed.</p> <p>Listed the ancient or veteran trees within the proposed route as recorded on the Ancient Tree Inventory (Ref 7.46) and potential for impacts. Stated that an AIA should be undertaken.</p>	<p>shown on Figure 7.5. Surveys to inform the AIA have not yet been completed and are currently ongoing.</p> <p>An AIA will be carried out and reported as part of the ES.</p>
Environment Agency	<p>Identified watercourses, species and habitats for consideration, and highlighted the opportunity to deliver watercourse enhancements through BNG.</p>	<p>A preliminary assessment of impacts to watercourses, species and habitats has been provided within this chapter and Chapter 9 Hydrology and Land Drainage, and will be assessed in full within the ES. A BNG Strategy will be implemented for the Project with a completed BNG metric (including watercourses) to be provided alongside the ES.</p>
Derbyshire Wildlife Trust	<p>Raised the potential for impacts to birds as a result of their interaction with the overhead line.</p> <p>Stated that impacts resulting from direct loss of habitat should be assessed, and also any impacts to sensitive sites, alongside the potential adverse impact to birds. A BNG Strategy should be produced alongside a BNG metric. Key sites highlighted included:</p> <ul style="list-style-type: none"> • Ogston Reservoir SSSI • Oakerthorpe LNR • Broadoak Plantation LWS • Wetlands around Lower Hartshay • LWS at Smalley Green • Morley Brickpits SSSI • Stanley – Morley Railway Lane LWS • Aston Brickyard Plantation and Claypit LNR and LWS • Trent and Mersey Canal 	<p>Design of the Project has aimed to avoid sensitive sites and habitats wherever practicable. As a result of feedback received at Stage 1 consultation (as detailed in DDR Chapter 5 and Chapter 3 Main Alternatives Considered), the draft Order Limits now lie 3.15 km east of Ogston Reservoir SSSI.</p> <p>Surveys for wintering and breeding birds are being carried out (October 2024 – April 2026) to support the assessment of potential effects to birds as a result of the Project. Effects to sensitive sites, habitats and birds have been considered on a preliminary basis within this PEIR and will be assessed in full within the ES.</p> <p>BNG is not currently a mandatory requirement of NSIPs, however, National Grid has committed to 10 per cent Environmental Gain including, as a minimum, 10 per cent BNG across all its construction projects.</p> <p>A BNG Strategy will be implemented for the Project, with a completed BNG metric to be provided alongside the ES, recognising the envisaged implementation of mandatory net gain for NSIPs in 2026.</p>

7.3.3 In addition, **Table 7.4** below provides a summary of the ecology and biodiversity-related engagement held to date.

Table 7.4: Summary of stakeholder engagement in relation to ecology and biodiversity assessment

Date and Method of Engagement	Consultee	Summary of Key Topics Discussed and Key Outcomes
April 2024	Natural England (Senior Planning Advisor and Manager for Flexible Casework Team)	An introductory meeting detailing the Project need, scope and Study Area and anticipated next steps. The use of DLL, and Derbyshire’s inclusion in DLL schemes, were discussed.
July 2024	Derbyshire Wildlife Trust (DWT) (Head of Biodiversity Planning and DWT Advocacy)	An introductory meeting to provide details of the Project background, as well as Project need, scope and Study Area. Discussion was held over the key concerns regarding sensitive sites and protected species, and also how the Project would be approaching BNG. Key Project milestones were outlined.
November 2024	Natural England (Senior Planning Advisor for Flexible Casework Team)	A general update of the Project was provided, including discussion on the EIA Scoping report. A run-through of proposed ecology surveys was given and Natural England confirmed that a list of surveys and methodologies could be provided to them for review in 2025. An update was provided on the approach to wintering bird surveys and proposed locations. A discussion was also held regarding BNG and now it might apply to the Project.
March 2025	DWT (Head of Biodiversity Planning)	A general Project update was provided, including discussion on the EIA Scoping Report. A discussion was held on the feedback received by DWT at Stage 1 Consultation. The approach to BNG, and community benefits, were discussed.
April 2025	Natural England	The aim of the discussion was to provide an overview of the Project and the proposed survey methodologies per receptor for the ecology and biodiversity assessment. In particular, the pragmatic approaches to bat roosting surveys and water vole presence/absence surveys were outlined in detail. Natural England confirmed broad acceptance of proposed adapted methodologies.

Date and Method of Engagement	Consultee	Summary of Key Topics Discussed and Key Outcomes
May 2025	Natural England (Senior Planning Advisor, Flexible Casework Team and Senior Advisor Protected Species Licensing)	The aim of the meeting was to discuss the updates on the Project following alterations to the emerging preferred corridor and to confirm the proposed survey methodologies. Additional detail was provided on the approach to bat roosting surveys and water vole presence/absence surveys, confirming that further surveys would focus on locations where impacts are known to occur and that mitigation would be applied on a precautionary basis where necessary. These methodologies were accepted by Natural England. Brief discussion was also held on the proposed approach to bat activity surveys, and it was determined that this would be under further consideration as the Project progressed. Mention was also made of potential routes for licensing and the approach to mitigation for otter if required.
June 2025	Derbyshire Bat Group (Various members)	The purpose of the meeting was to provide background on the Project and to discuss and request records held by the group, not available through the Local Records Centre data request. A specific request was made regarding held records of swarming sites or known swarming locations within proximity to the Project. Derbyshire Bat Groups data were discussed and it was confirmed they would be able to provide additional records to support the assessment. These data were received as of 14 August 2025.
October 2025	Derbyshire County Council (Principal Planner and Ecologist)	Background on the Project was provided, including project scope and Study Area. Maps of the corridor were presented highlighting the key ecological considerations throughout the proposed route alignment. The proposed ecological survey scope and methodologies were outlined, and discussion was held over the likelihood of scoping out dormouse. The approach to BNG for the Project was discussed and the value of providing gains in the local area was highlighted. It was confirmed that the Local Nature Recovery Strategy (LNRS) was released as of 6 October 2025.

7.4 Assessment Methodology

7.4.1 **Chapter 5 Approach to Preliminary Environmental Information Report** sets out the overarching approach which has been used in developing the PEIR. This section describes the technical methods used to determine the baseline conditions, receptor sensitivity and magnitude of change. This section also identifies further surveys and assessment that will be undertaken and reported in the ES.

Technical Guidance

- 7.4.2 The preliminary ecology and biodiversity assessment has been undertaken in accordance with the CIEEM EclA guidelines (Ref 7.28), which represent the current best practice for assessing impacts to ecological receptors as a result of development projects.
- 7.4.3 The preliminary ecology and biodiversity assessment determines whether, following the implementation of mitigation, effects of the Project are likely to be positive, negative or neutral, together with predicting if effects are likely to be significant. All conclusions and assessments are preliminary. All assessment work has applied, and continues to apply, a precautionary principle, in that where limited information is available (in terms of the Project proposals), a realistic worst-case scenario is assumed and assessed.
- 7.4.4 Following a series of detailed desk and field-based ecological assessments, an ES chapter will be produced detailing a full EclA assessing the potential impacts of the Project on biodiversity, once all impact avoidance and mitigation measures have been agreed. This will use relevant professional body guidelines for EclA (CIEEM EclA guidelines).

Zones of Influence

- 7.4.5 The CIEEM EclA guidelines (Ref 7.28) require assessments to be focused on ‘*Zones of Influence*’ (Zol). These are defined as the areas over which changes arising from construction and operation (including maintenance) could lead to ecologically significant effects.
- 7.4.6 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). The Zols defined for this PEIR are listed in **Table 7.5**.

Table 7.5: Zones of influence

Impact Pathway	Zones of Influence
Construction	
Temporary and permanent land take/ land use change	Draft Order Limits for habitats and sedentary species; mobile species (such as bats or SPA 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.
Fragmentation of habitats	Draft Order Limits for habitats and sedentary species; mobile species (such as bats or SPA 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.

Impact Pathway	Zones of Influence
Direct mortality of species	Draft Order Limits (active construction work areas).
Disturbance (noise, vibration, lighting, human and machinery presence)	Variable and dependent on species' tolerance to sources of disturbance. Typically, up to 300 m from the construction works (Chapter 14 Noise and Vibration) ²
Changes in hydrology	Up to 500 m from the draft Order Limits (Chapter 9 Hydrology and Land Drainage)
Changes in air quality	50 m from the draft Order Limits, and up to 200 m from any road links where the projected changes in traffic flow exceed IAQM Nature Conservation Sites Guidance thresholds (Chapter 13 Air Quality).
Pollution events	Up to 500 m from construction works, principally informed by the Zol for hydrological connection (Chapter 9 Hydrology and Land Drainage)
Introduction or spread of Invasive Non-Native Species	Within construction areas and up to 500 m beyond construction areas where associated with hydrological connectivity.
Operation (including maintenance)	
Direct mortality of species from collision with overhead lines	Draft Order Limits (specifically along the overhead centreline)
Disturbance (lighting and noise from permanent infrastructure)	Up to 1 km from permanent infrastructure ³ (Chapter 14 Noise and Vibration)
Fragmentation of habitats due to effects to and management ⁴ of vegetation to maintain operational safety	Up to 55 m from the overhead centreline (Chapter 4 Description of the Project) for habitats and sedentary species; mobile species (such as bats) may be affected beyond that if land within 55 m of the overhead centreline overlaps their typical home ranges or movement patterns.
Introduction or spread of Invasive Non-Native Species	Within locations where effects to, and management of, vegetation is carried out, and up to 500 m beyond these locations were associated with hydrological connectivity).

7.4.7 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 Project.

² Zol for impacts due to lighting will be explored further within the ES although it is anticipated they can be largely mitigated through appropriate design embedded and control measures.

³ Zol for impacts due to lighting will be explored further within the ES although it is anticipated they can be largely mitigated through appropriate design embedded and control measures.

⁴ The management of vegetation specifically to avoid potential interference with the overhead line. Involves the maintenance of vegetation to a prescribed height and may require the removal or pruning of trees.

Receptor sensitivity/value

- 7.4.8 In accordance with the CIEEM EclA guidelines (Ref 7.28), a number of characteristics contribute to the importance of an ecological feature. These include for example (inter alia):
- 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.
- 7.4.9 The nature conservation importance of an ecological feature is represented on a geographic scale, as detailed in **Table 7.6** below. Assigning importance to ecological features is also based on professional judgement informed by available guidance and information along with expert advice.
- 7.4.10 CIEEM’s EclA guidelines (Ref 7.28) 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 regard to significance of effects. Ecological features of ‘site’ importance or below are not considered sufficiently important to experience potentially significant effects and are therefore not assessed as being IEFs.

Table 7.6: Defining importance of ecological features

Geographical Context of Importance	Criteria
International or European	<ul style="list-style-type: none"> • European Sites including Special Protection Areas (SPAs) and SACs. • 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"> • Statutory designated sites, comprising SSSIs and NNRs. • <i>‘irreplaceable natural habitat’</i> e.g. ancient woodland, veteran trees, blanket bog, limestone pavement, sand dunes, saltmarsh and lowland fen. • Areas (and the populations of species which inhabit them) which meet the published selection criteria within <i>‘Guidelines for Selection of Biological SSSIs’</i> (Ref 7.47) but which are not themselves designated based on field data collected to inform the impact assessment, and in agreement with Natural England.

Geographical Context of Importance	Criteria
	<ul style="list-style-type: none"> 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' 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 and ancient and veteran trees.
Regional (East Midlands)	<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 importance in the context of published information on population size and distribution.
County (i.e. Derbyshire)	<ul style="list-style-type: none"> Local Nature Reserve and non-statutory designated sites including LWS. 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., Fenlands)	<ul style="list-style-type: none"> Habitats of Principal Importance and SPI, Red listed and legally protected or notable species which 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	<ul style="list-style-type: none"> 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, hardstanding used for car parking, as roads etc.).

Scope of Ecological Impact Assessment (EcIA)

7.4.11 The ES will consider the potential effects of the Project upon IEFs identified during the baseline survey and data collection, in accordance with the CIEEM EcIA guidelines (Ref 7.28). 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. Important Ecological Features may be located within areas directly impacted by the Project or the wider areas surrounding the Project (i.e. the ZoI).

Identification and characterisation of potential impacts

7.4.12 The potential impacts of the Project 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 construction, reinstatement and up to one year post construction (four years in total⁵), medium-term is considered to be between 2 and 15 years post construction, and long-term is considered to be greater than 15 years post construction.
- 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 identified IEFs.

7.4.13 Potential impacts are characterised initially in the absence of any mitigation, except where this is integral to the design of the Project (design embedded mitigation measures and good practice mitigation measures, as detailed in section 7.6).

7.4.14 Collaboration and data exchange with other relevant disciplines such as air quality, noise and vibration, and hydrology, will be carried out to further inform the ES and assessment of potential impacts.

Significance of effect

7.4.15 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 Project will be considered for both the construction and operational phases.

7.4.16 The CIEEM EcIA guidelines (Ref 7.28) define a significant effect 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 guidelines, are determined by assessing any deviation in the baseline conditions of a feature of ecological importance that may occur because of individual or cumulative impacts during the construction and operational phases of a development.

7.4.17 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 EcIA guidelines, this will be a function of the assessment. For this assessment, effects at a local scale or higher are defined as ‘significant’.

⁵ For the overall construction programme; however, it is anticipated that construction activities in any one location would be active for only part of this period.

- 7.4.18 Where a potential significant effect is identified, proposals for mitigation and/or compensation will be made following the mitigation hierarchy, with the aim of firstly avoiding, secondly reducing, thirdly restoring or finally, if possible, offsetting any identified significant adverse effects. 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 7.8. Further work to be undertaken.

Preliminary Assessment Assumptions and Limitations

- 7.4.19 The assessment has been undertaken based on preliminary Project design information as outlined within **Chapter 4 Description of the Project**. This information is accumulated iteratively and will be updated for the ES as the design evolves and relevant changes are made.
- 7.4.20 The new Chesterfield Substation and its potential environmental effects have been considered within this PEIR. **Chapter 4 Description of the Project** provides information regarding the inclusion of this substation.
- 7.4.21 This assessment has been prepared based on the environmental baseline available at the time of writing, and the extent of the draft Order Limits. At the time of this preliminary assessment, preliminary baseline surveys (see **Table 7.9**) are ongoing. Data have been included within this report up to the end of August 2025. The conclusions of the preliminary assessment are based on survey and desk study data collated to date, alongside professional judgement of the ecological receptors likely to be present within the Study Area and influenced by the construction and operation (including maintenance) of the Project. Due to baseline surveys continuing at the time of this assessment, the precautionary principle has been applied. Where information about a particular receptor is incomplete or uncertain, the potential for significant effects has not been ruled out. As such, at the time of writing, the majority of ecological receptors identified in the baseline of this PEIR have been retained for further assessment. The significance of effects detailed herein may be greater than that presented within the ES, following the completion of all surveys and assessments, once the status of these receptors has been confirmed and mitigation measures identified. The updated assessment will be included within the ES submitted with the DCO application.
- 7.4.22 Where data for the baseline habitat assessment have not yet been collected via onsite habitat survey as of August 2025, remote sensing habitat and pre-classification data have been used to assign broad habitat types to inform this assessment. These data have been reviewed and considered against field survey data accrued to date to highlight any erroneous or unexpected habitat classifications.
- 7.4.23 It remains possible that site access issues or health and safety issues prior to submission of the 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. This would be outlined in the ES. The approach would 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 Project on ecology and biodiversity. This may include, for example, adoption of a '*reasonable worst-case scenario*' and/or application of the precautionary principle (Ref 7.28). Where such approaches are to be taken, National Grid would seek to discuss and agree these with relevant stakeholders.

- 7.4.24 The desk study was originally carried out in October 2024 to inform the EIA Scoping Report, when the Study Areas were based on the Scoping Boundary which formed the Emerging Preferred Corridor (EPC). Data were requested from Derbyshire Biological Records Centre to inform the desk study in relation to these Study Areas. The Project design has since been developed and refined, with the draft Order Limits replacing the Scoping Boundary. These data will be reviewed throughout the Project timeline and, where necessary, additional data will be obtained to ensure coverage of the updated Study Areas as detailed in **Table 7.7**.
- 7.4.25 Access restrictions have limited the extent of survey data collected during the veteran tree surveys to date; however, a BS 5837 survey is currently being undertaken across the draft Order Limits, which will collect information on all trees, groups of trees, hedges and woodlands. Should any additional veteran trees be identified, these will be considered during design development of the Project and assessed within the ES.
- 7.4.26 A number of key parameters and assumptions have been used to inform this assessment. These are as follows:
- Any vegetation within 25 m either side of the overhead line centreline would require removal. Vegetation between 25 m and 33 m from the overhead line centreline would be affected and require management⁶, with vegetation between 33 m and 55 m potentially being affected (e.g. pruning). Vegetation over 55 m from the overhead line centreline would not be affected (as detailed within **Chapter 4 Description of Project**).
 - Vegetation would also be removed in the following areas:
 - construction compounds;
 - access tracks, including culverts;
 - access points and visibility splays;
 - pylon working areas;
 - crossing protection working areas;
 - highway passing places; and
 - third-party works (including utility diversions).
 - Vegetation would also be affected and require management in the following areas:
 - overhanging of accesses and access points;
 - trackway access and panel working areas;
 - operational and third-party accesses;
 - stringing areas and between crossing protection for netting (if netted area overlaps with larger mature trees, they will need removal);
 - vegetation will be trimmed rather than cleared, with cut lines created only where necessary to pull catenary wires or ropes; and
 - proposed temporary drainage areas.

⁶ The management of vegetation specifically to avoid potential interference with the overhead line. Involves the maintenance of vegetation to a prescribed height and may require the removal of trees.

- Pylon working areas are assumed to be approximately 75 m x 75 m. The foundations would be either pad and column, piled or bespoke. The method of piling required for tower foundations is yet to be confirmed. For this assessment, a reasonable worst-case scenario has been adopted which assumes driven piles would be used.
- Approximately 27 new culverts are currently envisaged to be installed to facilitate the crossing of watercourses by temporary haul roads required for construction. It is currently assumed all new culverts installed would be temporary and would be removed following construction completion.
- It is anticipated that the temporary haul roads required for construction would be 9 m in width, although a total width of 21 m would be required to include demarcation, drainage and soil storage.

Further Assessment within the ES

- 7.4.27 The ES will present a detailed assessment in accordance with CIEEM's EcIA guidelines (Ref 7.28), determining the significance of effects on receptors during construction and operation (and maintenance), where relevant, when considered in relation to the importance of the receptor and the character of potential impacts.
- 7.4.28 In addition, a BNG Strategy detailing how the Project will deliver BNG and subsequent BNG assessment, including metric, will be included within the DCO application. A HRA will be undertaken in parallel to the ES to evaluate if the Project could result in adverse effects on the integrity of European sites, either alone or in combination with other plans/projects.

Biodiversity net gain

- 7.4.29 The government's intention is to introduce a mandatory requirement for terrestrial Nationally Significant Infrastructure Projects (NSIPs) to achieve BNG, to align with the Environment Act 2021 (Ref 7.12). The Department for Environment, Food and Rural Affairs (Defra) is proposing that from May 2026 all NSIPs will be required to deliver BNG. At the time of writing, the details of NSIP BNG are still to be defined; however, it is anticipated there will be a requirement to achieve 10 per cent gains in biodiversity, with offsets secured and managed for a minimum of 30 years. Defra has concluded a consultation exercise (ended July 2025) regarding NSIP BNG implementation and delivery, with a view to providing subsequent technical guidance for BNG implementation on NSIPs.
- 7.4.30 National Grid has committed to 10 per cent Environmental Gain including, as a minimum, 10 per cent BNG across all its construction projects, including this Project. National Grid's commitment is expected to align with the anticipated mandatory BNG requirement for NSIPs due in 2026.
- 7.4.31 A full BNG assessment will be provided alongside the ES, and will follow industry good practice methodologies comprising:
- Biodiversity Net Gain: Good Practice Principles for Development (Ref 7.33); and
 - Statutory Biodiversity Metric Tools and Guides (Ref 7.48) (or the most recent version at the time of assessment).

- 7.4.32 In order to achieve the commitment of 10 per cent BNG, National Grid will follow the mitigation hierarchy, first seeking to avoid effects, then to mitigate within the draft Order Limits, before looking at off-site compensation solutions.
- 7.4.33 It is recognised that Defra is expected to release guidance for BNG for NSIPs in 2026. The Project BNG assessment and approach will be sure to align with any guidance released.

7.5 Baseline Conditions

Study Area

- 7.5.1 The Environmental Impact Assessment (EIA) Scoping Report (Ref 7.45) set out the initial Study Areas as a starting point for baseline data collection.
- 7.5.2 The Study Areas encompass the area over which all desk-based data were gathered to inform the biodiversity assessment presented in this chapter. Due to the presence of multiple biodiversity receptors and many potential effects, the level and type of data collection varies for each receptor and these are listed in **Table 7.7**. The extent of the Study Areas was determined based on best practice guidance, a high-level overview of the types of ecological features present, and the potential effects that could occur. The Study Areas were defined on a precautionary basis to ensure that the Zols relevant to all ecological features were covered during baseline data collection activities.
- 7.5.3 The Study Areas will be reviewed and amended in response to matters such as the refinement of the draft Order Limits design, the identification of additional impact pathways, and where appropriate in response to feedback from consultation, to ensure that there are sufficient data on which to conduct the assessment. A full and final account of the Study Areas will be presented within the ES.

Table 7.7: Study Area

Biodiversity Receptor	Study Area for Assessment
Statutory designated sites of international importance	draft Order Limits plus 20 km, extended to 30 km for SACs where bats are a qualifying interest, or SPAs/Ramsar sites where birds are a qualifying interest
Statutory designated sites of national and local importance	draft Order Limits plus up to 5 km
Non-statutory designated sites	draft Order Limits plus 5 km
Habitats (Ancient Woodland and Habitats of Principal Importance in England)	draft Order Limits plus 500 m
Protected/notable species	draft Order Limits plus 2 km

Data Collection

7.5.4 The baseline within this chapter has been informed by desk studies and field surveys, as detailed below.

Desk study

7.5.5 A desk study was undertaken to inform the Scoping Report (October 2024). The Project design has since been developed and refined, with the draft Order Limits replacing the Scoping Boundary. The desk study data were therefore updated in August 2025 to reflect this change, so that the areas of search aligned with the Study Areas as presented within **Table 7.7**. The following information sources were drawn on:

- Defra’s Multi Agency Geographic Information for the Countryside (MAGIC) website (Ref 7.49) – to identify habitats and locations for designated habitats and protected species.
- Derbyshire Biological Records Centre (Ref 7.50) – a data request to obtain data in support of baseline assessments, for all non-statutory designated sites, protected and notable species records.
- Remote sensing habitat and pre-classification data – high level habitat mapping using aerial imagery datasets, categorised broadly into UK Habitat classifications.
- Derbyshire Bat Group – a data request to obtain data relating to bats in support of baseline assessment (Ref 7.51).
- British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) data (Ref 7.52).
- Environment Agency (Ref 7.53) – fish, aquatic macroinvertebrate and macrophyte records.
- Woodland Trust’s Ancient Tree Inventory (Ref 7.46) – to determine the potential presence of ancient and veteran trees.
- Aerial photography, Google Earth and Google Maps Street View – freely available aerial photography reviewed to inform the baseline for habitats and species.

Field survey

7.5.6 Survey data obtained through field surveys undertaken between October 2024 and August 2025 (inclusive) have also informed this chapter. Surveys are ongoing at the time of writing. Full details of field surveys undertaken from October 2024 (including those programmed to be completed in 2025 and 2026) will be included within the ES. A summary of the ecological surveys undertaken to date and their status is provided in **Table 7.8**.

7.5.7 All surveys have been undertaken in accordance with the relevant guidance (as specified in **Table 7.8**), with survey scope and methodologies agreed with Natural England (see **Table 7.4**). Full details of survey methodologies will be provided in the ES.

Table 7.8: Ecological surveys completed to date

Survey Type	Survey Area	Overview
UK Habitat Classification Survey	Draft Order Limits	<p>Habitats within the draft Order Limits have been mapped in accordance with Professional Version 2.01 of the UKHab Classification methodology (Ref 7.36). These surveys have been undertaken within areas which have been granted land access permission to date. Habitat Condition Assessments (HCA) have also been carried out alongside the habitat mapping, following the methodology detailed within the Statutory Biodiversity Metric guidance (Ref 7.48). An assessment of the suitability of habitats to support protected and/or notable species has also been undertaken.</p> <p>UKHab classification surveys commenced in April 2025. Survey data from April 2025 to August 2025 have informed this assessment.</p>
Daytime Bat Walkover (DBW) Ground Level Tree Assessment (GLTA) Preliminary Roost Assessment for bats	Draft Order Limits	<p>Alongside the UKHab classification surveys, surveys were undertaken to assess the suitability of habitats, trees and buildings to support roosting, foraging and commuting bats. These surveys have been conducted in accordance with Bat Conservation Trust's Good Practice Guidelines (Ref 7.37). The results of these surveys will inform the requirement for further assessment, in the form of aerial inspection surveys, dusk emergence surveys, and/or bat activity surveys.</p> <p>The DBW, GLTA and Preliminary Roost Assessment surveys commenced in April 2025. Data from April 2025 to August 2025 have informed this assessment.</p>
Badger (<i>Meles meles</i>) Walkover	Draft Order Limits	<p>Alongside the UKHab classification surveys, a search was completed to identify and map evidence/signs of badger presence, including badger setts, in accordance with the relevant guidance (Ref 7.54 and Ref 7.55). The results of these surveys will inform the requirement for further assessment, such as camera trapping and/or bait marking.</p> <p>The badger walkover surveys commenced in April 2025. Data from April 2025 to August 2025 have informed this assessment.</p>
Breeding Bird Surveys	Targeted locations	<p>Surveys comprised walked transects of five locations along the draft Order Limits, to cover key locations and representative habitats to provide an assessment of the suitability and use of the draft Order Limits in relation to breeding birds. Flight path and height, field use, distribution and abundance have been recorded. Survey methodology comprises one survey per month from March to August (inclusive), in line with best practice (Ref 7.56, Ref 7.57, and Ref 7.58).</p>

Survey Type	Survey Area	Overview
		The breeding bird surveys commenced in May 2025. Data from May 2025 to August 2024 have informed this assessment.
Wintering Bird Surveys	Targeted locations	<p>Surveys have been undertaken during the 2024/2025 winter season and comprised Vantage Point (VP) surveys at 13 locations to record flight path and height, field use, distribution and abundance, where access was agreed. These surveys were carried out prior to the release of the draft Order Limits and therefore the EPC was used to inform VP locations. VP locations were selected at locations along the EPC where higher levels of bird activity were anticipated, based on the habitat present or proximity to designated sites of ornithological interest. Some of these locations are no longer being assessed due to their distance from the draft Order Limits.</p> <p>The wintering bird surveys commenced in September 2024 to March 2025. Twelve of the 13 VPs were surveyed during this period as access was not granted to one location. In addition, the full survey effort could not be completed for six of the 12 VPs surveyed due either to poor weather conditions or issues with access. All data collected during the 2024/2025 survey period have informed this assessment. Further surveys for wintering birds commenced in September 2025.</p>
Riparian Mammal Habitat Suitability Assessments	Draft Order Limits	<p>Alongside the UKHab classification survey, surveys have been undertaken to assess the suitability of habitats for otter (<i>Lutra lutra</i>) and water vole (<i>Arvicola amphibius</i>), following the relevant guidance (Ref 7.59 and Ref 7.60). The results of the habitat suitability assessments will determine the requirement for further survey, such as presence/likely absence surveys and/or camera trapping. Riparian mammal habitat suitability assessment surveys commenced in April 2025. Data from April 2025 to August 2025 have informed this assessment.</p>
Great crested newt (GCN) (<i>Triturus cristatus</i>) Habitat Suitability Index (HSI) Assessments	Draft Order Limits	<p>Alongside the UKHab classification survey, waterbodies identified within the draft Order Limits were assessed for their suitability to support GCN using the standard HSI assessment methodology (Ref 7.61, Ref 7.62 and Ref 7.63). Waterbodies were assessed and scored on ten key variables which are known to influence occupancy of waterbodies by GCN and breeding populations. Scores for each of the variables were used to calculate an overall HSI value for each waterbody. This was then cross-referenced with the guidelines to assign the waterbody to one of five categories: poor, below average, average, good, or excellent.</p>

Survey Type	Survey Area	Overview
		The GCN HSI surveys commenced in April 2025. Data from April 2025 to August 2025 have informed this assessment.
Aquatic Habitat Surveys	Draft Order Limits	<p>Aquatic Habitat Surveys are currently being undertaken on watercourses within the draft Order Limits including six statutory Main Rivers, 52 ordinary watercourses and three canals. To date, the surveys have been undertaken on watercourses which have been granted land access permission.</p> <p>The potential for aquatic habitats to support legally protected and/or notable aquatic species has been assessed through field observations of various channel and bank characteristics including: substrate type; water depth; flow type; riparian vegetation; large wood habitat; artificial modifications; and notable features.</p> <p>The field-based assessments are based on standard sources of guidance on habitat suitability for key faunal groups, including salmonid fish (Ref 7.42), white-clawed crayfish (Ref 7.44) and eel (Ref 7.43), supplemented by professional experience and judgement.</p> <p>Aquatic Habitat Surveys commenced in August 2025 and are ongoing, however, data from August 2025 surveys have informed this assessment.</p>
Veteran Tree Survey		A Veteran and Ancient Tree survey commenced in March 2025 in accordance with RAVEN 2 survey methodology (Ref 7.64) to land parcels providing access. The surveyed area was between Willington and Alfreton. This specific survey has now been incorporated within a wider BS 5837:2012 (Ref 7.41) study which is currently ongoing.

Further Data to be Collected to Inform the ES

- 7.5.8 Baseline surveys are ongoing. **Table 7.9** below details the further survey work to be completed, which will inform the ES.

Table 7.9: Scope of further field survey to be undertaken and completed

Ecological Receptor	Survey Type and Summary	Survey Area	Survey Status
Habitats	UK Habitat Classification Survey To categorise and map habitats in accordance with UKHab Classification methodology.	draft Order Limits	Partially complete, ongoing Surveys commenced in April 2025 and continued for the remainder of the 2025 survey season extending into 2026 as necessary.
Habitats and protected/notable flora and fungi	National Vegetation Classification (NVC) Surveys To confirm the presence of areas of ancient woodland, or contiguous ancient woodland habitat, HPI, and other areas of botanical interest, to assess their biological value and inform mitigation measures.	Targeted locations within the draft Order Limits	To be undertaken in 2026.
Ancient and veteran trees	Veteran tree survey To identify, map and assess ancient and veteran trees using the RAVEN2 survey methodology.	draft Order Limits plus 15 m	Partially complete, ongoing Surveys commenced in 2025 with the remainder to be undertaken alongside the BS 5837 (Ref 7.41) tree survey.
Trees	BS 5837 tree survey Categorising and mapping of trees in accordance with BS 5837.	draft Order Limits plus 15 m	Partially complete, ongoing BS 5837:2012 survey commenced in September 2025 and will be continuing until spring 2026.
Bats – roosting	GLTAs of trees and Preliminary Roost Assessments of buildings/structures to identify Potential Roost Features (PRF) and determine roosting suitability and inform need for further survey.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys. Surveys commenced in April 2025 and will continue into 2026.

Ecological Receptor	Survey Type and Summary	Survey Area	Survey Status
	Aerial PRF inspection surveys of trees, where possible, to confirm roosting suitability classification (where this cannot be achieved from ground level).	Targeted locations within the draft Order Limits	To be undertaken in 2026.
	Aerial inspection and/or dusk emergence surveys of trees or structures known to be directly impacted by the Project.	Targeted locations within the draft Order Limits	To be undertaken between May and September 2026, where required.
Bats – foraging and commuting	DBW surveys to assess habitat suitability.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys.
	Bat activity surveys in the form of static detector deployment at targeted locations within the draft Order Limits, to assess potential fragmentation and habitat severance impacts. Surveys to target linear habitats (hedgerows, treelines and woodland strips/edges) and woodlands bisected by the Project that may be used by commuting and foraging bats.	Targeted locations within the draft Order Limits	To be undertaken in 2026
Badger	Daytime walkover for signs of badger activity and any active setts.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys.
	Camera trapping of identified setts to determine activity levels and sett type.	Targeted locations within the draft Order Limits (as required)	To be undertaken in 2026

Ecological Receptor	Survey Type and Summary	Survey Area	Survey Status
Birds – breeding	Transect surveys of five locations within or in proximity to the draft Order Limits, selected to cover key locations and representative habitats of the draft Order Limits.	Targeted locations within/in proximity to the draft Order Limits	Partially complete, ongoing May, June and August survey visits completed in 2025 Remaining survey visits to be completed in March and April 2026
Birds – wintering (including passage)	VP surveys at select locations within and adjacent to the draft Order Limits where higher levels of bird activity are anticipated, based on the habitats present or proximity to designated sites of ornithological interest.	Targeted locations within/in proximity to the draft Order Limits	Partially complete, ongoing Thirteen VP locations to be surveyed during the 2025 – 2026 winter period.
Otter	Habitat suitability assessments of watercourses, ditches and surrounding terrestrial habitat.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys.
	Presence/likely absence surveys.	Targeted locations within the draft Order Limits based on the results of the habitat suitability assessment and locations of known impact. Watercourses will be surveyed up to a maximum of 250 m up and downstream from the location of impact.	To be undertaken in 2026, if required. The requirement for survey will be determined based on review of the habitat suitability assessment data and construction methodology and design.

Ecological Receptor	Survey Type and Summary	Survey Area	Survey Status
	Camera trapping of potential resting places, if required.	Targeted locations based on the results of the presence/likely absence surveys	To be undertaken in 2026, if required. The requirement for survey will be determined based on review of the habitat suitability assessment and presence/likely absence survey data, and construction methodology and design.
Water vole	Habitat suitability assessments of watercourses and ditches.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys.
	Presence/likely absence surveys. A single survey visit to be carried out during the habitat suitability assessment, for watercourses known to be directly impacted by the Project, classified as 'suitable but poor', 'good' or 'optimal'.	Targeted locations within the draft Order Limits based on the results of the habitat suitability assessment and locations of known impact. Watercourses will be surveyed up to a maximum of 250 m up and downstream from the location of impact.	To be undertaken between April and September 2026
Great crested newt (GCN)	HSI assessments of ponds/ waterbodies and slow-moving or stagnant ditches.	draft Order Limits	Partially complete, ongoing Undertaken alongside the UKHab classification surveys.
Aquatic habitat survey	Surveys of statutory Main Rivers, ordinary watercourses and canals to confirm their suitability to support protected and/or notable aquatic species.	draft Order Limits	Partially complete, ongoing Surveys commenced in July 2025 and continued throughout the remainder of 2025 and into 2026.

Ecological Receptor	Survey Type and Summary	Survey Area	Survey Status
Fish	eDNA sampling on suitable watercourses.	draft Order Limits	To be undertaken in 2026, if required. The requirement for survey will be determined based on review of the aquatic habitat survey data and construction methodology and design.
	Electrofishing on suitable watercourses.	draft Order Limits	To be undertaken in 2026, if required. The requirement for survey will be determined based on review of the aquatic habitat survey data and construction methodology and design.
Aquatic macroinvertebrates	Three-minute kick/sweep sampling of suitable watercourses.	draft Order Limits	To be undertaken in 2026, if required The requirement for survey will be determined based on review of the aquatic habitat survey data and construction methodology and design.
Macrophytes	Macrophyte surveys on suitable watercourses.	draft Order Limits	To be undertaken in 2026, if required The requirement for survey will be determined based on review of the aquatic habitat survey data and construction methodology and design.
Ponds	Predictive System for Multimetrics (Ref 7.65) on suitable ponds.	draft Order Limits	To be undertaken in 2026, if required The requirement for survey will be determined based on review of the aquatic habitat survey data and construction methodology and design.

Existing Baseline Conditions

Designated sites for nature conservation

Statutory designated sites of international importance

- 7.5.9 No international designated sites for biodiversity are located within 2 km of the draft Order Limits. Six SACs and one SPA were identified within 20 km. The Planning Inspectorate agreed that it was appropriate for five of the SACs to be scoped out of the EIA in the EIA Scoping Opinion (**Table 7.2**), in relation to both construction and operation (including maintenance) effects. These sites are therefore excluded from this assessment. The remaining sites which have been considered further within this chapter are listed in **Table 7.10** and shown on **Figure 7.1**.
- 7.5.10 There are no SACs designated for bats located within 30 km of the draft Order Limits. There were no additional SPAs or Ramsar sites designated for birds within 30 km of the draft Order Limits, beyond those already specified above.

Table 7.10: International sites designated for biodiversity within 20 km, scoped in to this assessment

Site	Designation	Approximate Distance from the draft Order Limits (km)	Designated Features
Peak District Moors (South Pennine Moors Phase 1)	SPA	8.5 km west	The site is designated for breeding short-eared owl (<i>Asio flammeus</i>) (22 pairs, at least 2.2 per cent of the Great Britain breeding population); merlin (<i>Falco columbarius</i>) (30 pairs, at least 2.3 per cent of the Great Britain breeding population); and golden plover (<i>Pluvialis apricaria</i>) (435 pairs, at least 1.9 per cent of the Great Britain breeding population).
River Mease	SAC	14.1 km south	Designated for the presence of spined loach (<i>Cobitis taenia</i>) and bullhead. Additional qualifying features that are not the primary reason for designation include white-clawed crayfish (<i>Austropotamobius pallipes</i>) (River Dove), otter and watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation.

Statutory designated sites of national and local importance

- 7.5.11 Twelve national sites designated for biodiversity are located within 5 km of the draft Order Limits. All are designated as SSSIs and have been scoped in to this assessment. **Table 7.11** presents the national statutory sites designated for biodiversity within 5 km, and they are shown on **Figure 7.2**.

7.5.12 The Impact Risk Zones (IRZs) of three SSSIs (related to biodiversity) are included in the draft Order Limits. These IRZs indicated that projects involving pylons and overhead lines, or 'All Planning Applications', could potentially impact these sites. One of these IRZs is associated with a site noted for its ornithological interest (Ogston Reservoir SSSI).

Table 7.11: Statutory designated sites of national importance within 5 km

Site	Designation	Approximate Distance from the draft Order Limits (km)	Designated feature
Morley Brick Pits*	SSSI	0.01 km south west	The site comprises a number of flooded pits originally dug for clay, and now containing acidic water colonised by a range of plants and animals, some of which are becoming rare in Derbyshire.
Breadsall Railway Cutting	SSSI	0.73 km west	An important mosaic of habitats, in particular grassland, which support species which are uncommon in the area. Scrub has encroached parts of the cutting and has developed into woodland at the eastern end. The scrub provides cover and winter food for birds. The site is notable for the butterfly population, which includes species of local distribution in Derbyshire such as holly blue (<i>Celastrina argiolus</i>) and species which are now recolonising the county such as gatekeeper (<i>Pyronia chinate</i>).
Donington Park*	SSSI	1.85 km south	A medieval deer park with a population of ancient oak trees, which contain a rich invertebrate fauna including rare and uncommon species.
Dovedale Wood	SSSI	1.87 km east	One of the best remaining ash-wych elm woods in Nottinghamshire. The site is of Regional importance.
Crich Chase	SSSI	2.56 km west	Supports a diverse mosaic of semi-natural habitats including woodland, scrub and unimproved neutral and acid grasslands, with a rich assemblage of grassland fungi. In particular, the waxcaps (<i>Hygrocybe</i>), fairy clubs (<i>Clavariaceae</i>) and pinkgills (<i>Entoloma</i>).
Cromford Canal	SSSI	2.91 km west	Six miles of disused canal, which has been selected as an example of a eutrophic freshwater habitat, with a rich submerged and emergent aquatic flora and diverse marsh-wet grassland margin, supporting a rich insect fauna.

Site	Designation	Approximate Distance from the draft Order Limits (km)	Designated feature
Ogston Reservoir*	SSSI	3.15 km west	An 85-hectare (ha) area of water which is an important wintering site for many wildfowl and a feeding site for wading birds on passage. Contains a peripheral mosaic of semi-natural habitat of botanical interest, but most importantly, provides a diversity of nesting and feeding sites for a wide variety of breeding birds.
Teversal to Pleasley Railway	SSSI	3.96 km west	Contains one of the few remaining limestone grasslands in Nottinghamshire and is of Regional importance.
Shining Cliff Woods	SSSI	4.00 km west	Ancient semi-natural oak woodland, with areas of wetter ground where there are springs or streams. Supports a range of mollusc species as well as hairy wood ant (<i>Formica lugubris</i>). Many birds breed in the woods including pied flycatcher <i>Ficedula hypoleuca</i> and wood warbler (<i>Phylloscopus sibilatrix</i>). In winter the woods are used by large flocks of brambling (<i>Fringilla montifringilla</i>).
Teversal Pastures	SSSI	4.30 km west	A seven-hectare grassland, considered some of the finest remaining neutral grasslands in Nottinghamshire.
Ticknall Quarries	SSSI	4.32 km south	The site comprises a number of disused quarries and is designated for a number of adjacent habitats including semi-natural ash woodland, limestone grassland, open water and small flushes.
Breedon Hill	SSSI	4.68 km south	The largest area of species-rich Carboniferous Limestone grassland in Leicestershire, representative of this grassland habitat in the English Midlands.

*SSSIs with relevant IRZs falling within the draft Order Limits.

7.5.13 Sixteen local sites designated for biodiversity are located within 2 km of the draft Order Limits, all of which are scoped in to this assessment. They are presented in **Table 7.12** below and displayed in **Figure 7.2**.

Table 7.12: Statutory designated sites of local importance within 2 km

Site	Designation	Approximate distance from the draft Order Limits (km)	Designated feature
Oakerthorpe	LNR	0.02 km west	A reserve with a pond and woodland supporting amphibians, grass snake (<i>Natrix helvetica</i>) and water vole.
Williamthorpe	LNR	0.02 km south west	Three areas of open water. The largest area contains an extensive reedbed, one of the largest in Derbyshire, and surrounding mudflats. These support a variety of bird species, with over 200 species recorded.
Chellaston Brickworks	LNR	0.03 km north	A mix of woodland and grassland habitats supporting invertebrates and birds.
Aston Brickyard Plantation	LNR	0.67 km south	A former brickyard and series of clay-pits. Now contains mature secondary woodland and neutral grassland with a butterfly bank.
Breadsall Railway Cutting	LNR	0.73 km west	A variety of habitats uncommon to disused railways and not found elsewhere in Derby. The grasslands are similar to old unfertilised hay meadows which were once present in the surrounding landscape.
St Chad's Water	LNR	1.02 km south east	Habitats include semi-natural grassland, swamp, open water and hedgerows, contributing to the Lowland Derbyshire BAP. Kingfisher (<i>Alcedo atthis</i>) has been recorded along with damselflies and dragonflies.
Sinfin Moor	LNR	1.12 km north west	Habitats include scrub, grassland, woodland, ponds and an extensive network of hedgerows which connect the landscape, forming wildlife corridors.
Hammersmith Meadows, Ripley	LNR	1.12 km east	No information available
Doe Lea	LNR	1.14 km west	A mixture of woodland, scrub and reedbed, supporting a variety of bird species.
Belper Parks	LNR	1.19 km west	Habitats include broadleaved woodland, scrub, semi-improved acid and natural grassland and wetland, contributing to the Lowland Derbyshire BAP.

Site	Designation	Approximate distance from the draft Order Limits (km)	Designated feature
Carr Wood	LNR	1.43 km east	Mixed woodland and unimproved grassland, supporting a range of native flora.
Elvaston	LNR	1.46 km north west	Woodland, open parkland, and historical gardens.
Chaddesden Woods and Lime Lane Wood	LNR	1.56 km west	Ancient woodland with a range of tree and fungi species.
Duffield Millenium Meadow	LNR	1.74 km west	Habitats include coastal floodplain grazing marsh, open water, rivers, stream and hedgerows. The site is part of the Lowland Derbyshire BAP.
Wessington Green	LNR	1.95 km west	Habitats include semi-natural grassland, mire, heathland, hedgerows, scrub and woodland. The site contributes to the Lowland Derbyshire BAP and supports notable plants such as sneezewort (<i>Achillea ptarmica</i>), star sedge (<i>Carex echinata</i>) and bluebell (<i>Hyacinthoides sp.</i>), with locally rare lesser skullcap (<i>Scutellaria minor</i>).
Pennytown Ponds	LNR	1.99 km east	Three large ponds, including one fishing pond, with woodland and grassland.

Non-statutory designated sites

- 7.5.14 The desk study returned the locations of 355 non-statutory designated sites within 5 km of the draft Order Limits, comprising LWS, pLWS and DWT reserves, all of which have been scoped into this assessment. **Table 7.13** provides a summary of the 21 sites (15 LWSs and six pLWSs) within the draft Order Limits only. All non-statutory designated sites within 5 km are shown on **Figure 7.3**.
- 7.5.15 No DWT reserves are located within the draft Order Limits. The closest DWT reserve is Oakerthorpe, located 11 m from the draft Order Limits.

Table 7.13: Non-statutory designated sites for biodiversity within the draft Order Limits

Site	Designation	Reason for designation
Alfreton Park	LWS	Parkland
Booth's Wood and Brook	LWS	Ancient semi-natural woodland
Brown's Lane Meadows	LWS	Unimproved neutral grassland

Site	Designation	Reason for designation
Brickhill Plantation, Locko Wood	pLWS	No information currently available
Bluebell Wood	pLWS	No information currently available
Church Lane, Morley	LWS	Hedgerow
Corbriggs Marsh	LWS	Wet grassland
Cromford Canal, Lower Hartshay	LWS	Water vole population
Deer Shed Pond	pLWS	No information currently available
Dunshill Quarry	LWS	Secondary broad-leaved woodland
Dunshill Shelterbelt	LWS	Secondary broad-leaved plantation
Furnace Hillock	pLWS	No information currently available
Hartshay Brook	pLWS	No information currently available
Holbrook Disused Sewage Works	LWS	Habitat mosaic
Knob Farm Pond	pLWS	No information currently available
Lower Hartshay Wetland	LWS	Wetland bird assemblage
Meadow Farm	LWS	Wet grassland
Millstone Lane Road Verge	LWS	Hedgerow
Stanley-Morley Disused Railway	LWS	Secondary broad-leaved woodland
The Warren, Coxbench	LWS	Unimproved acid grassland
Twyford Green Complex	LWS	Wet grassland

Habitats and protected/notable species

7.5.16 **Table 7.14** below provides a summary of desk study and field survey results as of August 2025 (inclusive), relating to protected and/or notable species relevant to the Project. Surveys continued throughout the remainder of 2025 and will be completed through 2026.

Table 7.14: Summary of protected and/or notable habitats and species

Receptor	Desk Study	Field Survey
Habitats	<p>Fifty areas of ancient woodland were identified within 2 km of the draft Order Limits, with one block located directly adjacent. The Ancient Woodland Inventory lists woodlands that fall into one of four categories, but broadly those which have been in existence for over 400 years (since 1600). However, many woodlands less than 2 hectares (ha) are not included on the inventory, and so small woodlands and linear features are excluded.</p> <p>The following HPI were identified within the draft Order Limits:</p> <ul style="list-style-type: none"> • coastal floodplain grazing marsh; • deciduous woodland⁷; • good quality semi-improved grassland; • lowland dry acid grassland; • lowland fens; • lowland heathland; and • traditional orchard. <p>Ancient woodland and HPI are shown on Figure 7.4. To date (end of August 2025) approximately 40 per cent of the draft Order Limits has been subject to UKHab survey (as detailed under Field Survey). Remote sensing habitat and pre-classification data have been used to categorise the remaining 60 per cent, as shown on Figure 7.5.</p>	<p>The majority of the landscape within the draft Order Limits to date was arable cropland bounded by hedgerows, interspersed with other habitats such as neutral grassland and woodland, small residential areas and farms, and golf courses.</p> <p>The following habitats have been recorded within the draft Order Limits during the UKHab classification surveys:</p> <ul style="list-style-type: none"> • cropland – 344.70 ha; • modified grassland (pasture) – 256.38 ha; • woodland – 40.74 ha; • neutral grasslands – 36.79 ha; • urban – 13.29 ha; • scrub – 2.91 ha; • fen, marsh and swamp – 0.98 ha; • rivers – 0.43 ha; • other standing water (ponds) – 0.15 ha; • canal – 0.14 ha; • lines of trees – 2.6 km; • built linear features – 2.3 km; • hedgerow – 3.4 km; • watercourses (canals, rivers, ditches, streams) – 12.6 km; and

⁷ The Priority Habitat Inventory as shown on MAGIC encompasses HPI woodlands under a single ‘*Deciduous woodland*’ layer. This includes the following HPI: ‘*lowland beech and yew woodland*’; ‘*lowland mixed deciduous woodland*’; ‘*upland mixed ashwoods*’; ‘*upland oakwood*’ and ‘*wet woodland*’.

Receptor	Desk Study	Field Survey
Watercourses	A total 61 watercourses have been identified within the draft Order Limits including six statutory Main Rivers, 52 ordinary watercourses, and three canals.	<ul style="list-style-type: none"> Individual trees⁸ – 262 trees. Survey work is ongoing and will continue through 2026. Full details will be provided as part of the ES, following the completion of all survey work.
Ancient and Veteran trees ⁹	<p>A total of 10 veteran trees and four notable trees have been identified from records within the Study Area. No record of ancient trees was identified during the desk study.</p> <p>The desk study also identified 54 Tree Preservation Orders (TPO) and eight Conservation Areas located within the Study Area.</p>	<p>Fifty-one notable trees, nine veteran trees and one ancient tree have been identified within the draft Order Limits between Willington and Alfreton.</p> <p>A BS 5837 (Ref 7.41) survey is currently being undertaken for the draft Order Limits, which will collect information on all trees, groups of trees, hedges and woodlands and will also feed into the Project design.</p>
Amphibians	<p>A total of 119 records of four amphibian species within 2 km of the draft Order Limits were returned from the desk study: common toad (<i>Bufo bufo</i>), common frog (<i>Rana temporaria</i>), smooth newt (<i>Lissotriton vulgaris</i>), and great crested newt. None of these records were located within the draft Order Limits.</p> <p>Records of 16 granted European Protected Species (EPS) licences in relation to great crested newt were</p>	<p>The draft Order Limits comprises mainly open arable or grazed pasture fields which are generally sub-optimal for amphibians, including GCN. Such fields are typically bordered by hedgerows, drainage ditches and tree lines. Localised areas of woodland, scrub and denser more varied grasslands are present. It is likely the draft Order Limits support common and widespread species of amphibian, as returned within the desk study results.</p>

⁸ Tree or group of trees over 7.5 cm in diameter at breast height (DBH) that do not form part of another specific habitat type such as a woodland or orchard, and do not qualify as a 'line of trees' or form part of a hedgerow which qualifies as a 'hedgerow with trees'.

⁹ Ancient trees are those which have passed a certain age and are considered remarkably old for their species. The age varies from species to species (e.g 150 years for a birch or over 800 for a yew). Veteran trees can be any age but show ancient characteristics such as the shape, and have habitat features such as wounds or decay.

Receptor	Desk Study	Field Survey
	<p>identified within 2 km of the draft Order Limits. None of these records were within the draft Order Limits.</p>	<p>Two ponds have been recorded within the draft Order Limits and subject to GCN HSI assessments, both were categorised as ‘Poor’ suitability to support GCN. Discussions with Natural England are ongoing regarding the provision of DLL for the Project (see section 11.8).</p>
<p>Birds (breeding, wintering, passage)</p>	<p>There was one international site designated for birds within 30 km of the draft Order Limits: the Peak District Moors (South Pennine Moors Phase 1) SPA. Also within 2 km were one national and one local statutory site, designated for birds: the Ogston Reservoir SSSI and Williamthorpe LNR.</p> <p>Records for a total of 44 Schedule 1¹⁰ or otherwise notable bird species were identified during the desk study. Twenty-eight of these records lie within the draft Order Limits, relating to 10 species: redwing (<i>Turdus iliacus</i>), Mediterranean gull (<i>Ichthyaetus melanocephalus</i>), quail (<i>Coturnix coturnix</i>), peregrine (<i>Falco peregrinus</i>), red kite (<i>Milvus milvus</i>), kingfisher, hobby (<i>Falco subbuteo</i>), barn owl (<i>Tyto alba</i>), fieldfare (<i>Turdus pilaris</i>) and brambling.</p> <p>Forty species listed on the UK Birds of Conservation Concern (BoCC) Amber list (Ref 7.66) were identified within 2 km of the draft Order Limits, including black-headed gull (<i>Chroicocephalus ridibundus</i>), kestrel (<i>Falco tinnunculus</i>) and sparrowhawk (<i>Accipiter nisus</i>).</p> <p>49 species listed on the UK BoCC Red list (Ref 7.66) were identified within 2 km of the draft Order Limits, including merlin, black-tailed godwit (<i>Limosa limosa</i>) and dunlin (<i>Calidris alpina</i>).</p>	<p>The largely agricultural landscape is suitable to support a range of waders, geese, and other waterbirds during winter, as well as birds of prey and a range of farmland breeding bird species. Surveys have prioritised recording species recognised to be at higher risk of collision with overhead lines, as well as Schedule 1 or otherwise notable species. Such species recorded during surveys as of August 2025 (from the targeted locations outlined in Table 7.9) are presented below:</p> <p><u>Winter VP surveys:</u></p> <ul style="list-style-type: none"> • barn owl (<i>Tyto alba</i>); • Cetti’s warbler (<i>Cettia cetti</i>); • goldeneye (<i>Bucephala clangula</i>); • great black-backed gull* (<i>Larus marinus</i>); • great crested grebe* (<i>Podiceps cristatus</i>); • greylag goose (<i>Anser answer</i>); • herring gull* (<i>Larus argentatus</i>); • kingfisher; • lapwing* (<i>Vanellus Vanellus</i>); • lesser black-backed gull* (<i>Larus fuscus</i>); • mallard* (<i>Anas platyrhynchos</i>); • marsh harrier (<i>Circus aeruginosus</i>);

¹⁰ Schedule 1 bird species are afforded additional legal protection under the Wildlife & Countryside Act 1981 (as amended) (Ref 7.2).

Receptor	Desk Study	Field Survey
	<p>Records of 27 bird species listed in the Lowland Derbyshire BAP (as either Priority Species or Locally Important Species) were returned, of which 18 were recorded within the draft Order Limits, including curlew (<i>Numenius arquata</i>), dunnoek (<i>Prunella modularis</i>) and yellowhammer (<i>Emberiza citronella</i>).</p> <p>Sixty-three records related to species of bird considered to be at higher risk of collisions with overhead lines¹¹, including whooper swan (<i>Cygnus cygnus</i>), Mediterranean gull (<i>Ichthyaetus melanocephalus</i>), and purple heron (<i>Ardea purpurea</i>).</p>	<ul style="list-style-type: none"> • peregrine (<i>Falco peregrinus</i>); • teal* (<i>Anas crecca</i>); • tufted duck* (<i>Aythya fuligula</i>); • whooper swan (<i>Cygnus cygnus</i>); and • wigeon* (<i>Mareca penelope</i>). <p>*species which are noted in the citation for Ogston Reservoir SSSI.</p> <p><u>Breeding bird transects:</u></p> <ul style="list-style-type: none"> • Cetti's warbler; and • peregrine. <p>Potential evidence of barn owl has also been recorded incidentally during the habitat surveys, including owl pellets on the ground in three locations.</p>
Bats	<p>There are no international or national statutory sites designated for bats within 30 km or 2 km, respectively, of the draft Order Limits.</p> <p>The desk study returned a total of 307 records of bat species within 2 km of the draft Order Limits, equating to eleven species, including a single record of greater</p>	<p>As part of the GLTA, trees throughout the draft Order Limits have been categorised as either PRF-I¹² or PRF-M¹³ where PRFs have been identified, or otherwise recorded as 'Further Assessment Required' (FAR) to determine their suitability for roosting bats. Four buildings within the draft Order Limits</p>

¹¹ Susceptibility to collisions is based on a number of factors, including avian morphology (wing size, weight, speed, manoeuvrability, and vision) and behavioural factors (such as flocking, long-distance migration, foraging / roosting trips, aerial hunting and nocturnal or night migration). Bird groups considered to be at highest risk include pelicans, herons, egrets, bitterns, ibis and spoonbills; cranes, rails and gallinules; and waterfowl (ducks, geese, swans). Waders, gulls and storks; bustards; divers, grebes and cormorants; birds of prey and owls may also be at risk (Ref 7.67).

¹² Suitable for individual or very small numbers of bats either due to size and conditions of the PRF or lack of suitable surrounding habitats.

¹³ Suitable for multiple bats and may support a higher conservation status roost such as a maternity colony.

Receptor	Desk Study	Field Survey
	<p>horseshoe bat (<i>Rhinolophus ferrumequinum</i>), an Annex II species, 1.5 km east.</p> <p>Eighty-five records related to roost locations for six species: brown long-eared bat (<i>Plecotus auritus</i>), common pipistrelle (<i>Pipistrellus pipistrellus</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), Leisler's bat (<i>Nyctalus leisleri</i>), Brandt's bat (<i>Myotis brandti</i>) and whiskered bat <i>Myotis mystacinus</i>, as well as unidentified <i>Myotis</i> species, pipistrelle species, and long-eared bat species. No records of roosts for Annex II species were identified.</p> <p>In addition, 539 records of bats within 2 km of the draft Order Limits were provided by Derbyshire Bat Group. Of these, 89 related to bat roosts for the following species: Brandt's bat, brown long-eared bat, common pipistrelle, Daubenton's bat (<i>Myotis daubentonii</i>) and soprano pipistrelle, as well as unidentified <i>Myotis</i> and <i>Pipistrellus</i> species. None of these roost records were located within the draft Order Limits.</p> <p>Records for 45 granted EPS licences were identified within 2 km of the draft Order Limits. The majority related to the damage and/or destruction of common pipistrelle and/or brown long-eared bat resting places; however, seven related to the damage or destruction of maternity roosts of the following species: common and soprano pipistrelles, Brandt's bat, whiskered bat, brown long-eared bat, and Natterer's bat <i>Myotis nattereri</i>. Only one EPS licence was located within the draft Order Limits, relating to the destruction of a brown long-eared bat resting place (EPSM2012-5158), east of Belper.</p>	<p>have been categorised as Low suitability to support roosting bats during the Preliminary Roost Assessment survey.</p> <p>The majority of habitat within the draft Order Limits comprises agricultural cropland or grazed pasture and is primarily of Low suitability for foraging and commuting bats. However, there are a large number of hedgerows throughout the proposed route alignment which provide suitable connecting corridors. In addition, there are pockets of woodland present within both the draft Order Limits and the wider landscape, which provide high-quality foraging habitat. Overall, the habitats are likely to represent Low to Moderate suitability for the local bat population.</p>

Receptor	Desk Study	Field Survey
Badger	A total of 15 records relating to badger were returned within 2 km of the draft Order Limits, including sightings, roadkill, field signs, and sett locations. Nine of these were located within the draft Order Limits.	Evidence of badger presence, such as latrines, have been recorded throughout the draft Order Limits. A total of 31 potential or confirmed badger setts have been identified within the draft Order Limits during surveys. Six of these have been categorised as candidate (i.e. potential) main setts. Where required, further survey and assessment will be carried out to confirm the use of these features by badger and, where confirmed as a sett, establish the type and level of use.
Otter	A total of 59 records of otter were returned from the desk study, of which one record was located within the draft Order Limits associated with the direct observation of an otter at Cromford Canal. Several records related to spraints, feeding remains and direct observations were associated with the River Amber and its tributaries near Ogston, and also watercourses close to Willington such as the River Trent.	Watercourses have been recorded within the draft Order Limits, comprising a mixture of agricultural drains and ditches, streams, canals and Main Rivers. These watercourses provide suitable foraging and commuting habitat for otter. In addition, it has been noted in a number of locations that the surrounding habitat provided a secure and sheltered environment which would be suitable for otter resting places. Signs of otter have been recorded incidentally within the draft Order Limits during the habitat suitability surveys, including two spraints, associated with the River Derwent and Ock Brook, and feeding remains near Twyford Brook.
Water vole	The desk study returned 47 records of water vole within 2 km of the draft Order Limits, including burrows, latrines and feeding remains. Two records were from within the draft Order Limits, including a record from 2024. Several records were in relation to the River Amber near South Wingfield, with two	Watercourses and wet ditches throughout the draft Order Limits provide suitable habitat for water vole. The proportions of watercourses falling under each of the water vole habitat suitability categories ¹⁴ are as follows: <ul style="list-style-type: none"> <li data-bbox="1240 1219 2051 1294">• 18 of 75 watercourses classified as Negligible (24 per cent);

¹⁴ Based on Dean, M. 2021 (Ref 7.40). These are habitat suitability categories only and therefore do not link directly to water vole presence or absence.

Receptor	Desk Study	Field Survey
	<p>records near Hartshay Brook, Hartshay, and three associated with Oakerthorpe Brook.</p> <p>Water voles are noted in the designations for Oakerthorpe LNR and Cromford Canal, Lower Hartshay LWS.</p>	<ul style="list-style-type: none"> • 42 of 75 watercourses classified as Suitable but Poor (56 per cent); • 12 of 75 watercourses classified as Good (16 per cent); and • 3 of 75 watercourses classified as Optimal (4 per cent). <p>A full assessment will be provided within the ES following completion of all surveys.</p>
Reptiles	<p>26 records of two reptile species were identified within 2 km of the draft Order Limits; common lizard (<i>Zootoca vivipara</i>) and grass snake. None of these records were located within the draft Order Limits.</p>	<p>No incidental reptile sightings have been recorded. Localised areas of the draft Order Limits provide suitable habitat for reptiles, such as field margins and grasslands which contain tall and tussocky grass or denser and more varied vegetation, and watercourses with luxuriant marginal vegetation.</p>
Hazel dormouse <i>Muscardinus avellanarius</i>	<p>No records of this species or granted licences from Natural England were identified within 2 km of the draft Order Limits.</p> <p>There have been reintroduction programmes for hazel dormouse in the region, in Derwent Valley in 2003 and 2005 (approximately 3.5 km from the draft Order Limits) and most recently in Calke Abbey in 2023, approximately 6 km south of the draft Order Limits.</p>	<p>Habitat within the draft Order Limits largely comprises arable or grazed pasture fields which are generally less suitable for dormouse; however, areas with a high density of bordering hedgerows subject to less intensive management may be more suitable. In addition, there are localised areas of woodland and scrub present throughout the draft Order Limits which would provide suitable habitat.</p>
Brown hare <i>Lepus europaeus</i>	<p>The desk study returned 48 records of brown hare, an SPI. The closest record was 11 m west of the draft Order Limits.</p>	<p>Brown hare have been recorded incidentally within fields across the draft Order Limits on six occasions.</p> <p>The largely agricultural nature of the draft Order Limits, including open farmland, field boundaries and hedgerows, provides suitable habitat to support brown hare.</p>
Terrestrial invertebrates	<p>Forty-four records of protected or notable terrestrial invertebrates were returned by the desk study, relating to nine species of butterfly, 25 species of moth, four species of beetle, one species of true bug,</p>	<p>No notable invertebrates have been sighted incidentally. The landscape provides suitable habitat to support a range of common and widespread invertebrate species. Isolated sections where fields and boundaries comprise more varied</p>

Receptor	Desk Study	Field Survey
	<p>and five species of true fly. Eleven species were located within the draft Order Limits, including small heath (butterfly) (<i>Coenonympha pamphilus</i>).</p>	<p>vegetation structure and floral species, as well as limited areas of woodland, may provide more suitable habitat. In addition, there are a number of LWSs that lie within the draft Order Limits which may support increased invertebrate assemblages.</p>
Fish	<p>The desk study returned no fish species of conservation interest within the draft Order Limits from the last 10 years; however, six species of conservation interest were recorded within 2 km of the draft Order Limits. These included European eel, spined loach (<i>Cobitis taenia</i>), bullhead (<i>Cottus gobio</i>), brook lamprey (<i>Lampetra planeri</i>), Atlantic salmon (<i>Salmo salar</i>) and brown/sea trout (<i>Salmo trutta</i>).</p> <p>European eel, spined loach, brook lamprey, Atlantic salmon and brown/sea trout are all SPI.</p> <p>European eel are also listed as Critically Endangered under the IUCN Red List of Threatened Species (Ref 7.68).</p> <p>Bullhead and spined loach are listed under Annex II of the EC Habitats Directive (Ref 7.69), which is transposed into English law by The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 7.2) under which SACs can be designated due to the presence of these species. However, both of these species are only afforded protection when listed as a feature of a SAC, which is not the case for this assessment.</p>	<p>Of the watercourses that have been surveyed (see Watercourses, above), 22 were identified with suitable habitat for coarse and salmonid fish species including four statutory Main Rivers, two canals and 16 ordinary watercourses. This is based on the range of flow types, velocities, varying water depths, channel bed substrate and suitable refugia identified during the aquatic habitat surveys.</p>
Aquatic Macroinvertebrates	<p>No legally protected aquatic macroinvertebrate species were returned in the desk study within the draft Order Limits or within 2 km of the draft Order Limits from the last 10 years.</p>	<p>Of the watercourses that have been surveyed (see Watercourses, above), 28 were identified with suitable habitat for aquatic macroinvertebrate species including five statutory Main Rivers, two canals and 21 ordinary watercourses. This is based on the range of flow types,</p>

Receptor	Desk Study	Field Survey
	<p>However, six Nationally Scarce species were recorded within 2 km of the draft Order Limits including the riffle beetle (<i>Oulimnius rivularis</i>) (Ref 7.70); cased caddisfly (<i>Potamophylax rotundipennis</i>) and (<i>Hydatophylax infumatus</i>) (Ref 7.71); the mayfly (<i>Rhithrogena germanica</i>) (Ref 7.72); the bivalve (<i>Sphaerium rivicola</i>) (Ref 7.73) and the yellow-legged water-snipefly (<i>Atherix ibis</i>) (Ref 7.74).</p>	<p>varying water depth, channel bed substrate types and suitable refugia identified during the aquatic habitat surveys.</p>
Macrophytes	<p>No legally protected and/or notable macrophyte species were returned in the desk study within the draft Order Limits or within 2 km of the draft Order Limits.</p>	<p>Of the watercourses that have been surveyed (see Watercourses, above), macrophytes were identified on 22 watercourses including four statutory Main Rivers, three canals and 15 ordinary watercourses.</p> <p>The Invasive Non-Native Species (INNS) Himalayan balsam was observed at two of the canals (Cromford Canal and Derby Canal) and 12 of the ordinary watercourses.</p>
Notable plant species	<p>There were 106 records of 49 protected/notable vascular plant species within 2 km of the draft Order Limits returned during the desk study. Two of these were located within the draft Order Limits, both relating to bluebell (<i>Hyacinthoides non-scripta</i>) located in Booth's Wood and Brook LWS and near Calow Lane.</p> <p>No non-vascular plant species were returned in the desk study.</p>	<p>The majority of habitats within the draft Order Limits comprise those which support common and widespread species of plant and are of limited botanical diversity (e.g. arable cropland or modified grassland pasture). However, the draft Order Limits includes a number of LWSs which are managed for their conservation value and are likely to support more notable plant species, in particular Booth's Wood and Brook (ancient and semi-natural woodland), Brown's Lane Meadows (unimproved neutral grassland), Corbriggs Marsh (wet grassland), Holbrook Disused Sewage works (habitat mosaic), The Warren (unimproved acid grassland) and Twyford Green Complex (wet grassland).</p> <p>Incidental sightings of any notable plant species will continue to be recorded during the ongoing surveys. In addition, NVC surveys may be conducted where required (see Table 7.9).</p>

Receptor	Desk Study	Field Survey
Invasive Non-Native Species (INNS)	<p>There were records of 534 INNS within 2 km of the draft Order Limits returned from Derbyshire Biological Records Centre, comprising nine bird species, one crustacean (American signal crayfish <i>Pacifastacus leniusculus</i>), two mammal species and nine plant species. Only two records were located within the draft Order Limits, relating to American mink (<i>Neovison vison</i>) near the Cromford Canal and ring-necked parakeet (<i>Psittacula krameri</i>) near Morton.</p> <p>In addition, data returned by the Environment Agency identified two records of invasive non-native aquatic macroinvertebrates at Calow Brook within the draft Order Limits, the freshwater amphipod, (<i>Crangonyx pseudogracilis/floridanus</i>) and the New Zealand mud snail (<i>Potamopyrgus antipodarum</i>). Records of six invasive non-native aquatic macro-invertebrates were recorded within 2 km of the draft Order Limits, including the American signal crayfish.</p> <p>Data from the Environment Agency did not identify any INNS relating to macrophytes within the draft Order Limits. However, four invasive non-native aquatic macrophytes were recorded within 2 km of the draft Order Limits, which included Himalayan balsam (<i>Impatiens glandulifera</i>); duckweed (<i>Lemna minuta</i>); sweet flag (<i>Acorus calamus</i>) and Nuttall's waterweed (<i>Elodea nuttallii</i>).</p> <p>Nuttall's waterweed and Himalayan balsam are both listed on Schedule 9 of the Wildlife and Countryside Act 1981 (Ref 7.2).</p>	<p>INNS have been recorded within the draft Order Limits, including Himalayan balsam, <i>Cotoneaster sp</i>, New Zealand pigmyweed (<i>Crassula helmsii</i>), and rhododendron (<i>Rhododendron ponticum</i>).</p> <p><i>Cotoneaster sp</i>, New Zealand pigmyweed and Rhododendron have all been recorded on single occasions: within Wellington Power Station, within a drainage ditch near Arleston Lane, and within a woodland south of Derby Road, respectively. Himalayan balsam has been recorded throughout the draft Order Limits, associated with woodlands, hedgerows, scrub and watercourses.</p> <p>Incidental sightings of INNS will continue to be recorded during ongoing surveys.</p>

Future Baseline

- 7.5.17 The future baseline relates to known or foreseeable changes to the current baseline in the future, against which the effects of the Project during construction and operation can be assessed. Specifically, it accounts for anticipated changes including those caused by changing climatic conditions, policy, legislation and by other confirmed development projects which would be complete prior to construction of the Project.
- 7.5.18 Determining a future baseline draws upon information about the likely future use and management of the draft Order Limits in the absence of development, known population trends (for species), climate change, and any other proposed developments (consented or otherwise) that may act cumulatively with the Project to effect ecological features.
- 7.5.19 The current land use throughout the draft Order Limits is predominantly agricultural, comprising both cropland and pasture, with pockets of residential areas. There is unlikely to be any change to ecological conditions unless agricultural practices (or other management regimes) cease, in which case natural habitat succession would be expected. It is therefore reasonable to assume that if the Project does not proceed and current conditions are maintained, species abundance and distribution is unlikely to change significantly and baseline habitats would remain broadly unchanged, save for agricultural management rotation.
- 7.5.20 Due to climate change, it is possible that in the medium and long term the range and extent of some species may be altered. There may therefore be changes in the composition of plant and animal communities, and habitats and ecosystems may also change in character or composition. 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.
- 7.5.21 Other proposed and committed developments within the surrounding area could alter the future baseline in the absence of the Project. 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 with **Chapter 17 Cumulative Effects**.

7.6 Design Embedded and Good Practice Mitigation Measures

- 7.6.1 As set out in **Chapter 5 Approach to the Preliminary Environmental Information Report**, mitigation measures fall into one of three categories: design embedded mitigation measures; good practice measures; and additional mitigation measures. Those measures relevant to the assessment of ecology and biodiversity effects are set out below.

Design Embedded Mitigation Measures

- 7.6.2 Design embedded mitigation measures are those that are intrinsic to, and built into, the design of the Project. These measures are presented within **Table 4.2 in Chapter 4 Description of the Project**. Those relevant to ecology and biodiversity include the following:

- Through sensitive routeing and siting, sensitive habitats (including non-statutory and statutory designated sites, ancient woodland and HPI) have been avoided by design of the Project, where practicable.
- For haul roads required for construction access, crossings of Main Rivers will be avoided where reasonably practicable. If crossings are necessary, these would comprise either clear span bridges or suitable culverts, subject to design, constructability, and site constraints.
- Pylons will not be located within the relevant permitting stand-off distances around watercourses. Specifically, for non-tidal Main Rivers, a minimum distance of 8 m from the bank top or from any flood defence structure will be maintained.
- Siting of the proposed infrastructure within the draft Order Limits to minimise potential impacts on protected habitats and species identified through survey. Micro-siting of pylons would take into account swing of the overhead line conductors to avoid or minimise loss of woodland and trees as far as practicable.
- The proposed access routes for maintenance during operation will follow existing agricultural access routes to reach pylon locations, using existing culverts and bridges.

7.6.3 Additional measures may be included as the Project design progresses. The specific details of these measures will be developed in the ES for the DCO application.

Good Practice Mitigation Measures

7.6.4 Good practice measures comprise management activities, control measures and techniques which would be implemented during construction of the Project to minimise impacts as far as practicable, through adherence to good site practices and achieving legal compliance. These are listed in **Table 4A.3 of Appendix 4A Draft Outline Code of Construction Practice**, where the measures have been assigned references (for example, GG01) for ease of cross-reference.

7.6.5 Given the current position in relation to baseline data collection, with much of the ecological field surveys undertaken during the remainder of 2025 and to be completed throughout 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.

7.6.6 The control measures relevant to the ecology and biodiversity assessment for the Project include general site management that, in addition to biodiversity-specific measures, will help to manage impacts associated with the construction phase. These include the measures outlined in: GG01, GG02, GG03, GG04, GG05, GG06, GG07, GG10, GG14, GG15 and GG19. In addition, other control measures relevant to the ecology and biodiversity assessment include, but are not limited to: HD01 – HD13, HD17 – HD19, GH04, AS01, AQ03 – AQ23, and NV02 – NV03.

7.6.7 The control and management measures specific to ecology and biodiversity include the following:

- B01: The Main Works Contractor(s) would comply with relevant protected species legislation. Appropriate licences would be obtained where necessary from Natural England or the Environment Agency 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.

- B02: Prior to construction, a suitably qualified and experienced ECoW (or team of ECoWs) would be appointed to support the Main Works Contractor with implementation of ecological mitigation.
- B03: Prior to any works starting at a given location, a pre-start walkover survey would be completed by the ECoW of the works area plus a zone of influence (as determined by the ECoW) to confirm that baseline conditions remain accurate and relevant or identify otherwise. The zone of influence 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.
- B04: At sensitive crossing locations (e.g. rivers), existing access routes would be used as far as reasonably practicable and the width of any required working area kept to the minimum required to facilitate the works. If access upgrades are required or a new crossing is needed, preference would be for use of temporary bridges or culverts to be installed rather than using in-stream fords or other methods that involve directly crossing through the watercourse. The crossing method would be agreed with the relevant authority.
- B05: Where practical, sensitive sites including Sites of Special Scientific Interest, Local Nature Reserves, local conservation designations (Local Wildlife Site, Potential Local Wildlife Site and Derbyshire Wildlife Trust Reserves), ancient woodland, Wildlife Trust and Royal Society for the Protection of Birds reserves would be avoided where practicable when micro-siting the likely working areas.
- LV01: Application of tree protection measures in accordance with British Standard (BS) 5837:2012: Trees in relation to design, demolition and construction (Ref 7.41) and the UK government 'Standing Advice' for ancient woodland, ancient trees and veteran trees (Ref 7.75). 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. This would be applied to trees within the Order Limits, which would be preserved through the construction phase, and to trees outside of the Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction.
- B06: The avoidance of periods of sensitivity is considered best practice for a range of protected and notable species, and construction activities where reasonably practicable would be planned accordingly. For example, to avoid destruction of active bird nests, where practicable, in any areas where vegetation clearance is required, such works would be undertaken outside the breeding bird season (outside March–August, inclusive¹⁵). Where the clearance of suitable vegetation is required, 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 (as advised by qualified ecologist depending on species) would be implemented and remain in place until the ecologist confirms the nest is no longer active.
- B07: Any required vegetation removal that is suitable to harbour amphibians, reptiles and small mammals would be subject to a two-stage cut and overseen by

¹⁵ Nesting may occur earlier or later for some species in response to weather conditions.

an ECoW. Firstly, vegetation would be cut to approximately 150 mm (with the arisings removed or suitably managed). A second cut down to ground level would then be undertaken, following a period of time to allow animals to naturally disperse from the area. In areas of high suitability habitat where there is high risk of encountering amphibians, reptiles and/or small mammals, this would be a minimum of 24 hours. The length of this time is to be determined at the discretion of the ECoW. Vegetation would be cleared during suitable weather and seasonal conditions and using appropriate equipment based on the type of vegetation to be removed, the area affected, and the risk of mortality or injuring animals.

- B08: Where works require crossing or removing hedgerows, the opening would be kept to the minimum width necessary for safe working or other environmental considerations. New hedgerow planting would contain species that would comprise a mixture of native species consistent with the local geographic area.
- B09: In line with good practice, pollution prevention plans or equivalent would be drawn up to detail how ground and surface waters would be protected during construction and operation (including maintenance). These would include information on the storage of any fuels, oils and other chemicals and pollution incident response planning.
- B10: In line with good practice, measures to minimise any risk of effects on ecological features from dust emissions would be informed by the construction dust risk assessment and set out within a Dust Management Plan or equivalent. This would include the use of standard dust suppression methods.
- B11: Areas of temporary habitat loss would be reinstated, wherever practicable, following the completion of construction in each area. Habitats would be reinstated on a like-for-like basis, unless they cannot be replaced due to operational restrictions including the restrictions associated with land rights required for safe operation and structure of the Project. Species would comprise a mixture of native species complementing the existing local habitat and designed to enhance biodiversity value. Planting would be undertaken in the appropriate planting season but as soon as possible following completion of the works to reduce the likelihood of undesired colonisation by flora or invasive non-native species (INNS). Areas of permanent habitat loss (and temporary habitat loss greater than two years) would be considered within the Project's Biodiversity Net Gain assessment alongside development of bespoke mitigation and compensation strategies, where necessary.
- B12: A lighting design of all temporary and permanent lighting would be developed; however, the principles of lighting design will be detailed further for the ES and informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals (Ref 7.38). The lighting design would account for the potential effects on terrestrial ecology by taking measures to minimise lighting usage, minimise light spill, use the most appropriate wavelengths of light and locate lighting in the most appropriate locations – this is to decrease the potential displacement and disturbance effects on light sensitive fauna such as bats.
- B13: The use of tried and tested invasive species control and biosecurity measures, in accordance with Defra guidelines to avoid the spread of INNS and infested materials would be applied. A Biosecurity Method Statement (or equivalent) shall be prepared and implemented throughout construction and would outline proposed avoidance, mitigation and control measures (as needed)

to avoid the spread of invasive plant species. This would also consider biosecurity measures to manage the potential risk of spreading disease between farm holdings. Where practicable, works areas would be micro-sited to avoid contaminated locations. Measures may include the implementation of washing stations for both people and vehicles within 'risk' areas.

- B14: Where practicable, excavations would be created and backfilled within the same working day. Where excavations are proposed to be left 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.
- B15: Works would be undertaken following precautionary working method statements (PWMS), where required, to minimise impacts to protected/notable species and habitats. An ECoW would be present to ensure the implementation of measures within the PWMS, where required. Specific protected species and/or habitats detailed within the precautionary method statement, and the associated mitigation measures, would be informed by the findings of the surveys undertaken to support the development of the ES and those recorded during pre-construction surveys.

7.7 Preliminary Assessment of Effects

7.7.1 Baseline biodiversity data collection is ongoing and the data collected as of August 2025 are limited primarily to habitat information and protected species habitat suitability assessments. Further secondary ecological surveys associated with the presence/absence and distribution of species are to be undertaken throughout 2026, as set out in **Table 7.9**. As such, there is insufficient information to establish IEF or assign geographical importance as detailed within **Table 7.6**, in line with the CIEEM EclA guidelines (Ref 7.28). The precautionary principle has therefore been applied to this assessment. The significance of effects may be greater than those presented within the ES, following the completion of all surveys and assessments and the development of all necessary mitigation measures.

Likely Significant Effects

7.7.2 A preliminary assessment of the potential ecology and biodiversity effects for ecological features is presented below in **Table 7.15**, which is representative of a precautionary, worst-case assessment accounting for the Project design elements and ongoing data collection at the time of writing.

7.7.3 The assessment is ongoing and is subject to change in response to the development of the Project and data collection (field surveys and assessments). A full detailed assessment will be presented within the ES submitted with the DCO application.

Table 7.15: Summary of preliminary likely significant effects

Ecological receptor		Stage	Description of Potential Impacts and Effects	Preliminary Likely Significant Effects (with Design Embedded and Good Practice Mitigation Measures Outlined in section 7.6)
Statutory designated sites of international importance	Peak District Moors (South Pennine Moors Phase 1) SPA	Construction	<p>Due to the distance of the SPA from the draft Order Limits and the Zols for the Project (Table 7.5), there are no potential impact pathways for direct effects to the SPA itself. However, there may be direct impacts to land functionally linked to the SPA if present within the draft Order Limits. Such impacts include direct habitat loss or damage, or habitat degradation as a result of dust and air pollutant emissions or increased sediment load in watercourses. There may also be impacts to functionally linked land, if present, as a result of pollution events resulting in direct mortality of species or habitat degradation. Habitat degradation may result in the functional loss of foraging, sheltering, and/or commuting resources of species for which the site is designated, ultimately reducing the population size which the designated site can support.</p> <p>There may also be indirect impacts to functionally linked land, if present, relating to disturbance of species for which the site is designated, as a result of noise, lighting, vibration and human presence. Continued disturbance of key species may result in a reduction of energy intake and/or an increase in energy expenditure leading to a reduction in survival or productivity rates, reducing the population.</p> <p>A reduction in the population size of species for which the site is designated may impact the ability of the international site to achieve its conservation objectives.</p>	<p>Construction impacts and effects would be short-term, largely reversible and limited in extent.</p> <p>In the absence of a full dataset due to ongoing field surveys and assessments, the precautionary principle has been applied. Considering the species for which the SPA is designated and their habitat preferences, given the limited suitable supporting habitat located within the draft Order Limits and the distance of the SPA from any construction works, significant effects on the SPA or its qualifying features are not anticipated as a result of construction or operation of the Project.</p> <p>However, a full assessment will be recorded within the ES and HRA to determine the significance of any effects, following completion of ecological surveys and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>
		Operation	<p>The SPA is designated for supporting a number of key bird species. Potential impacts during construction relate to the risk of birds colliding with the overhead line, resulting in harm/mortality of key species. This may ultimately result in a reduction in the population size, impacting the ability of the international site to achieve its conservation objectives.</p>	
	River Mease SAC	Construction	<p>Due to the distance of the SAC from the draft Order Limits and the Zols for the Project (Table 7.5), there are no potential impact pathways for direct impacts such as direct habitat loss or damage, or habitat degradation as a result of dust and air pollutant emissions or increased sediment load in watercourses. In addition, no indirect impacts or effects as a result of disturbance from noise, vibration or lighting are anticipated.</p> <p>The River Mease SAC is hydrologically connected to the draft Order Limits primarily via the River Trent. While the Zol for effects relating to hydrology is 500 m (Chapter 9 Hydrology and Land Drainage) and the distance of the SAC from any works reduces the likelihood of impacts as a result of pollution events, as the SAC is designated for its aquatic and riparian fauna and there is a hydrological connection to the Project, on a precautionary basis, effects as a result of hydrological pollution cannot be ruled out at this stage. Such effects may comprise the direct mortality of species for which the site is designated, as well as indirect effects from habitat degradation resulting in the functional loss of foraging, sheltering, and/or commuting resources.</p>	<p>Construction impacts and effects would be short-term, largely reversible and limited in extent.</p> <p>Given the distance of the SAC from the draft Order Limits, but recognising the mobile nature of the species which form qualifying features of the SAC, on a precautionary basis, the potential for significant effects cannot be ruled out at this stage.</p> <p>A full assessment will be recorded within the ES and a HRA to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>
Statutory designated sites of national and local importance	Statutory designated sites of national or local importance within 500 m of the draft Order Limits	Construction	<p>No designated sites of national or local importance lie within the draft Order Limits, therefore there would be no direct impacts resulting in habitat loss or damage.</p> <p>Woodland contiguous to Oakerthorpe LNR extends within the draft Order Limits, therefore there is the potential for this site to be affected by habitat fragmentation, resulting in the reduction or loss of receptor quality/function.</p>	<p>Construction impacts and effects would be short-term, largely indirect, reversible and limited in extent.</p> <p>On a precautionary basis, the potential for significant effects cannot be ruled out at this stage.</p>

Ecological receptor	Stage	Description of Potential Impacts and Effects	Preliminary Likely Significant Effects (with Design Embedded and Good Practice Mitigation Measures Outlined in section 7.6)	
		<p>Based on the anticipated Zols for the Project (Table 7.5), sites within 500 m of the draft Order Limits may experience direct effects such as habitat degradation resulting from dust and air pollutant emissions, increased sediment load within watercourses, or pollution events. This may ultimately result in indirect effects to species supported by the sites, through potential functional loss of foraging, sheltering, and commuting resources. In addition, there is the potential for indirect effects to species within the sites as a result of disturbance from noise, vibration and artificial lighting, due to the proximity of construction activities.</p>	<p>A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>	
<p>Non-statutory designated sites</p> <p>Non-statutory designated sites within, or within 500 m of, the draft Order Limits</p>	Construction	<p>Fifteen LWSs lie within the draft Order Limits. There is therefore the potential for direct effects to these sites including habitat loss, damage or fragmentation resulting in the reduction or loss of receptor quality/function, as well as harm or mortality of associated species.</p> <p>For all sites in, and within 500 m of, the draft Order Limits, there is the potential for indirect effects related to habitat degradation from dust and air pollutant emissions, increased sediment load within watercourses, or pollution events, resulting in the reduction or loss of receptor quality/function. This may ultimately result in indirect effects to species supported by the site, through the functional loss of foraging and commuting resources. In addition, there is the potential for indirect effects to species within the sites as a result of disturbance from noise, vibration and artificial lighting, due to the proximity of construction activities.</p>	<p>On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>	
	Operation	<p>The effects to, and management of vegetation within the 55 m of the overhead centreline (e.g. pruning trees, trimming hedgerows) to maintain operational safety may result in direct effects to sites where such activities are required, including habitat damage and fragmentation, resulting in the reduction or loss of receptor quality/function.</p> <p>Sites which may be affected by ongoing maintenance include Lower Hartshay Wetland, Cromford Canal, Booth's Wood and Brook, Brown's Lane Meadows, Church Lane, Stanley-Morley Disused Railway and Dunshill Shelterbelt.</p>		
<p>Statutory designated sites of national and local importance</p> <p>Non-statutory designated sites</p>	<p>Statutory designated sites of national or local importance over 500 m from the draft Order Limits</p> <p>Non-statutory designated sites over 500 m from the draft Order Limits</p>	Construction	<p>Due to the distance of the sites from the draft Order Limits, there would be no direct impacts or effects as a result of habitat loss, damage or fragmentation, or mortality to site flora or fauna.</p> <p>Potential effects include those as a result from dust or air pollutant emission, increased sediment load in watercourses or pollution events resulting in habitat degradation, ultimately reducing receptor quality/function. This may cause indirect effects to species supported by the sites, through the functional loss of foraging, sheltering, and commuting resources. There may also be disturbance to species as a result of noise, vibration and artificial lighting.</p>	<p>Due to the distance of these sites from the draft Order Limits and the Zols for the Project (Table 7.5), it is anticipated that the effects would not be significant, following the implementation of embedded mitigation and control and management measures as detailed within section 7.6.</p> <p>A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment.</p>
<p>Habitats (Ancient Woodland and Habitats of Principal</p>	Ancient woodland	Construction	<p>No ancient woodland sites lie directly within the draft Order Limits; therefore, direct loss of ancient woodland or trees within ancient woodland inventory areas is not anticipated. However, several sites lie directly adjacent or in close proximity to the draft Order Limits, and woodland/habitats which are contiguous with ancient woodland sites extend within the draft Order Limits. There is therefore the potential for direct effects as a result of damage or habitat fragmentation. In addition, there is the potential for effects as a result of dust or air</p>	<p>On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment.</p>

Ecological receptor	Stage	Description of Potential Impacts and Effects	Preliminary Likely Significant Effects (with Design Embedded and Good Practice Mitigation Measures Outlined in section 7.6)
Importance in England)	Operation	<p>pollutant emissions, increased sediment load in watercourses or pollution events, resulting in habitat degradation. These factors may all ultimately result in a reduction of receptor quality or function.</p> <p>Sites which lie within 15 m of the draft Order Limits may be affected as a result of damage to trees where new infrastructure encroaches into root protection areas.</p>	<p>The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>
	Operation	<p>No ancient woodland sites lie directly within the draft Order Limits; therefore, there will be no direct effects to ancient woodland as a result of operation and maintenance.</p> <p>Woodland contiguous to Sutton Springs Wood and Booths Wood (both woodlands listed on the Ancient Woodland Inventory) extends within the draft Order Limits. These contiguous woodlands may be affected by the management vegetation within the 55 m of the overhead centreline (e.g. pruning trees, trimming hedgerows) to maintain operational safety. As a result, Sutton Springs Wood and Booths Wood may be affected through habitat fragmentation, resulting in the reduction or loss of receptor quality/function</p>	
Habitats of Principal Importance (including hedgerows)	Construction	<p>There is the potential for direct effects to HPI as a result of direct habitat loss, damage or fragmentation. In addition, there is the potential for effects as a result of dust and air pollutant emissions, increased sediment load in watercourses, or pollution events, resulting in habitat degradation. These factors may all ultimately result in the reduction of receptor quality or function.</p>	<p>On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>
	Operation	<p>The management of vegetation along the proposed route alignment will require pruning, trimming, and activities to trees and hedgerows to maintain operational safety and avoid interference with the overhead line. These may result in direct effects to HPI where such activities are required, including habitat damage, manipulation and fragmentation, resulting in the reduction or loss of receptor quality/function.</p>	
Watercourses	Construction	<p>There is the potential for direct effects to watercourses as a result of direct habitat loss, damage or fragmentation, in particular where culverts are required. In addition, there is the potential for effects as a result of dust and air pollutant emissions, increased sediment load, or pollution events, resulting in habitat degradation. These factors may all ultimately result in the reduction of receptor quality or function.</p>	<p>On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.</p>
	Operation	<p>It is currently anticipated that all culverts required for construction would be temporary and would be removed following construction completion. The access routes for maintenance activities will follow existing agricultural access routes and therefore no new culverts will be required during operation. There are therefore no perceivable pathways for effects to watercourses during operation.</p>	

Ecological receptor		Stage	Description of Potential Impacts and Effects	Preliminary Likely Significant Effects (with Design Embedded and Good Practice Mitigation Measures Outlined in section 7.6)
Protected/Notable species	Ancient and veteran trees	Construction	Direct impacts include removal or effects to and management (e.g. pruning) of trees. In addition, trees may be damaged where new infrastructure encroaches into root protection areas. These impacts may result in effects like reduction of receptor quality or function. Potential reduction in amenity value of trees adjacent to the line through reduction in canopies to provide sufficient clearance.	On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.
		Operation	Effects to and management of vegetation (e.g. pruning) to maintain operational safety and avoid interference with the operational line, may result in deterioration of receptor quality or function. Potential reduction in amenity value of trees adjacent to the line through reduction in canopies to provide sufficient clearance.	
Birds (breeding, wintering, passage)		Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm or mortality through collision with machinery or vehicles during construction. Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing foraging resources, and disturbance from noise, vibration, artificial lighting and human and machinery presence/activity.	On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.
		Operation	Direct harm/mortality from collision with overhead lines. Indirect effects resulting from avoidance behaviours due to disturbance from operational lighting and noise at the Chesterfield Substation. Direct effects from disturbance to nesting birds during maintenance activities on pylons and effects to and management of vegetation, required to maintain operational safety and avoid interference with the overhead line.	
Bats		Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm or mortality through collision with machinery/vehicles during construction. Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing foraging and commuting resources, and disturbance from noise, vibration, and artificial lighting.	On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine the significance of any effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.
		Operation	Direct effects resulting from maintained habitat fragmentation (namely woodland) due to the effects to and management of vegetation along the proposed route alignment, to maintain operational safety and avoid interference with the overhead line. Indirect effects resulting from avoidance behaviours due to disturbance from operational lighting and noise at the Chesterfield Substation.	
Amphibians, Reptiles, terrestrial invertebrates		Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm or mortality to reptiles from construction activities. Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing foraging and commuting resources, and disturbance from noise, vibration, artificial lighting and human and machinery presence.	Based on habitat suitability established from field survey data collected to date, desk study analysis of land parcels not yet visited and implementation of design embedded and control and management measures, significant effects are not anticipated on amphibians, reptiles, and terrestrial invertebrates. A full assessment will be recorded within the ES to determine any significance of effects, following completion of ecological survey and assessment.
		Operation	Indirect effects resulting from avoidance behaviours due to disturbance from operational lighting and noise at the Chesterfield Substation.	

Ecological receptor	Stage	Description of Potential Impacts and Effects	Preliminary Likely Significant Effects (with Design Embedded and Good Practice Mitigation Measures Outlined in section 7.6)
Badger, otter, water vole, hazel dormouse, brown hare	Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm or mortality to individual animals resulting from construction activities. Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing foraging and commuting resources, and disturbance from noise, vibration, artificial lighting and human and machinery presence.	Construction impacts and effects would be short-term, largely reversible and limited in extent. On a precautionary basis, the potential for significant effects during construction cannot be ruled out at this stage.
	Operation	Indirect effects resulting from avoidance behaviours due to disturbance from operational lighting and noise at the Chesterfield Substation.	Following the implementation of design embedded and control measures, no significant operational stage effects are anticipated. A full assessment will be recorded within the ES to determine any significance of effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.
Fish and Aquatic Macroinvertebrates	Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm or mortality resulting from construction works (e.g. installation of culverts). Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing foraging, sheltering, and commuting resources, and disturbance from noise, vibration, and artificial lighting during construction.	On a precautionary basis, the potential for significant effects cannot be ruled out at this stage. A full assessment will be recorded within the ES to determine any significance of effects, following completion of ecological survey and assessment. The ES will present the results of surveys and assessments and subsequently assess the impacts and effects on this receptor, identifying any mitigation measures required.
	Operation	Direct effects to species (migratory behaviours, egg/fry fish development), due to electromagnetic fields if underground cabling crosses rivers.	
Protected/notable flora, fungi and macrophytes	Construction	Direct effects associated with the loss or fragmentation of suitable habitat, as well as direct harm through construction activities. Indirect effects as a result of habitat degradation (from dust and air pollutant emissions, in-channel sediment, pollution events) reducing the availability of suitable habitat.	Based on the field survey data collected to date and implementation of design embedded and control and management measures, significant effects on protected/notable flora, fungi and macrophytes are not anticipated. A full assessment will be recorded within the ES to determine any significance of effects, following completion of ecological survey and assessment.
INNS	Construction	Potential spread of INNS during construction activities such as vegetation clearance which would lead to a deterioration of semi-natural habitats and, in some cases, mortality of native species.	Following the implementation of design embedded and control measures, significant effects are not anticipated.
	Operation	Potential spread of INNS during maintenance activities such as vegetation clearance which would lead to a deterioration of semi-natural habitats and, in some cases, mortality of native species.	

7.8 Additional Mitigation Measures

- 7.8.1 Additional mitigation comprises measures over and above any embedded and standard mitigation measures (as detailed within section 7.6), for which the EIA has identified a requirement to further reduce significant environmental effects. Due to ongoing baseline data collection, additional mitigation measures are yet to be developed at the time of writing. Additional mitigation measures will be determined following the completion of all surveys and assessments and in conjunction with relevant stakeholders, firstly to avoid impacts (where possible) and secondly to reduce the significance of any effects. A full account of the impact assessment and proposed mitigation and compensation measures will be presented within the ES.
- 7.8.2 Additional mitigation measures may include, for example, tree protection measures or artificial maintenance of important commuting corridors (such as through the creation of temporary hedgerows). Identified mitigation measures may inform the development of receptor-specific mitigation strategies and method statements which may be later developed, or help inform, derogation licences for protected species including but not limited to bats, otter, water vole and badger.
- 7.8.3 While not anticipated, where impacts to sensitive sites or habitats require additional measures to reduce the significance of any effects, these will be site-specific and developed in conjunction with relevant stakeholders. 21 LWSs/pLWSs lie within the draft Order Limits. There is one unnamed ancient woodland area directly adjacent to the draft Order Limits, with woodland contiguous to Sutton Springs Wood and Booths Wood (both woodlands listed on the Ancient Woodland Inventory), extending within the draft Order Limits. Project design and potential impacts to the LWSs and ancient woodlands are to be explored further, with additional mitigation to be implemented if necessary firstly to avoid (where possible) or secondly reduce potential impacts and effects, and latterly to develop compensation where impacts cannot be avoided.

Great crested newt

- 7.8.4 District Level Licensing (DLL) is an alternative approach to mitigation licensing for development sites which could affect great crested newts. The approach aims to increase the number of great crested newts by providing new/better habitats in targeted areas to benefit their wider population.
- 7.8.5 The DLL approach includes strategic area assessment, the identification of risk zones and strategic opportunity area maps. Where a DLL scheme is in place, developers can make a financial contribution to strategic habitat compensation (documented within an Impact Assessment and Conservation Payment Certificate) instead of applying for a separate traditional European Protected Species (EPS) licence or conducting individual detailed surveys.
- 7.8.6 There are three risk categories under the Natural England DLL scheme (red, amber, and green) and DLL is only available for development within amber and green zones. The draft Order Limits extend through amber and green risk zones only, and Natural England has confirmed that the DLL approach can be applied to the Project.

7.9 Monitoring

- 7.9.1 As detailed in section 7.6, an ECoW or team of ECoWs will be present during construction to monitor the Contractor to ensure compliance with, for example but not limited to: the detailed CEMP, any permits or exemptions, protected species licences, and best practice construction guidelines and standards. The ECoW will additionally ensure compliance with all mitigation prescriptions detailed within the ES, as well as any subsequent mitigation prescriptions following pre-construction survey completion.
- 7.9.2 It may be necessary to undertake monitoring to confirm the successful establishment of all reinstated habitats as well as mitigation planting areas, and any additional ecological mitigation features, if present. The requirements for monitoring will be presented within the ES, following the completion of all surveys and assessments.
- 7.9.3 Any specific monitoring required in relation to protected species licensing will be detailed within the method statement associated with any licence application. The requirements are likely to include a period of post-implementation monitoring to ensure mitigation performs as expected and as required of any licence. Post-completion monitoring surveys may be required for species subject to protected species licensing and will be specific to the individual species/feature/receptor.
- 7.9.4 The requirement for any monitoring will be assessed further following completion of all surveys and assessments and will be presented within the ES.

7.10 Residual Effects

- 7.10.1 As detailed above, additional mitigation measures may be developed following the completion of all surveys and assessments, and therefore the need for or effect of additional mitigation has not been assessed at the time of writing. As such, for this preliminary assessment, the residual effect for each receptor is the same as the effects reported above in section 7.7. This is representative of a precautionary, worst-case assessment.
- 7.10.2 The assessment will be refined and updated for the ES as the design of the Project progresses and will include additional mitigation measures to avoid or reduce the significance of effects as far as practicable.

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