

Preliminary Environmental Information Report

Calderdale Energy Park

7 April 2026

Volume 2, Chapter 8 : Biodiversity

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Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations
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8 Biodiversity

8.1 Introduction

- 8.1.1 This Chapter of the Preliminary Environmental Information Report (PEIR) has been prepared by Logika Group on behalf of the Applicant and presents a preliminary assessment of the likely significant environmental effects of the Proposed Development upon biodiversity. It is based on the environmental information available to date (which is detailed in this Chapter), as well as the current description of the Proposed Development as set out in **Chapter 4: The Proposed Development**.
- 8.1.2 This Chapter reaches the preliminary conclusion that likely significant environmental effects of the Proposed Development on biodiversity are predicted to occur during the construction, operational and maintenance and decommissioning phases. A more detailed assessment will be provided in the ES.
- 8.1.3 Given the sensitive nature of the habitats and species present, a comprehensive mitigation and compensatory package will be required to address the predicted impacts. These are being developed by the Applicant with consultation with relevant consultees and stakeholders. These measures will be designed to reduce the magnitude of the predicted impacts. Mitigation and compensatory approaches will be developed and submitted as part of the Environmental Statement (ES).
- 8.1.4 The conclusions of the following technical aspect assessments are relevant to the receptors considered within the assessment presented within this Chapter, and have been taken into account in the assessment for biodiversity:
- **Chapter 9: Ornithology;**
 - **Chapter 10: Hydrology and Hydrogeology, Geology and Peat;** and
 - **Chapter 16: Air Quality.**
- 8.1.5 This Chapter is supported by the following appendices:
- **Appendix 8-1: Desk Study Report;**
 - **Appendix 8-2: Terrestrial Ecology Baseline (2023-2024);**
 - **Appendix 8-3: Habitat Baseline Report (2023-2025);**
 - **Appendix 8-4: Bat Survey Report 2025;** and
 - **Appendix 8-5: Summary of ‘Scoped Out’ Effects/ Receptors**

8.1.6 This Chapter is supported by the following figures:

- **Figure 8-1:** Study Areas Applied to the Turbine Area
- **Figure 8-2:** Study Areas Applied to the Access Routes and Bradford West Cable Corridor
- **Figure 8-3:** Habitat Survey Coverage

8.1.7 As the Proposed Development overlaps with two European Sites¹, the South Pennine Moors Special Area of Conservation (SAC) and the South Pennine Moors Phase 2 Special Protection Area (SPA), any mitigation or compensation will need to ensure that requirements under The Conservation of Habitats and Species Regulations 2017 (the ‘Habitats Regulations’)² are met. The Proposed Development is subject to a separate Habitats Regulations Assessment (HRA), which is under preparation.

8.2 Legislation Policy and Guidance

8.2.1 Key policy, legislation and guidance relating to Biodiversity and of relevance to this preliminary assessment comprises the following, as shown in **Table 8-1**.

Table 8-1: Legislation, Policy and Guidance

Type	Name	Relevance to Assessment
Legislation	The Conservation of Habitats and Species Regulations 2017 (‘the Habitats Regulations’) as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 ³	Provides a legal framework for the conservation of habitats and species ensuring that development or activities assess and mitigate protected species and habitats. The Habitats Regulations identify locations through designation (SAC and SPAs) and affords additional protection to European Protected Species.

¹ A European site, for the purpose of assessment with regards development is defined by the UK Government as Special Areas of Conservation (SAC), Special Protection Areas (SPA), proposed SACs, potential SPAs, Ramsar sites and areas secured as sites compensating for damage to a European site.

² The Conservation of Habitats and Species Regulations. Available at: <https://www.legislation.gov.uk/ukxi/2017/1012/contents>. [Accessed November 2025].

³ The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 Available at: <https://www.legislation.gov.uk/ukxi/2019/579/contents/made> [Accessed November 2025].

Type	Name	Relevance to Assessment
	Wildlife and Countryside Act (1981) (WCA) ⁴	Provides a framework to protect wildlife, their habitats, and the countryside in the UK, ensuring the conservation of native species and the management of natural resources. The WCA identifies Sites of Special Scientific Interest (SSSI) which are areas recognized for their biological significance. It affords legal protection to various species and species group and includes provision to control the introduction and spread of non-native species.
	Countryside and Rights of Way Act (2000) (the 'CRoW Act') ⁵	Details further measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation.
	Environment Act (2021) ⁶	Establishes a comprehensive legal framework for environmental governance in the UK, focusing on improving air and water quality, enhancing biodiversity, and reducing waste. Key elements of the Act are the introduction of Biodiversity Net Gain (BNG) requirements and the development of Local Nature Recovery Strategies (LNRS).
	Natural Environment and Rural Communities Act (2006) ⁷ (as amended by the Environment	Introduced to enhance biodiversity and regulate public authorities' responsibilities towards the environment and rural communities. Section 41 of the NERC Act maintains

⁴ Wildlife and Countryside Act 1981. Available at: <https://www.legislation.gov.uk/ukpga/1981/69/contents>. [Accessed November 2025].

⁵ Countryside and Rights of Way Act 2000. Available at: <https://www.legislation.gov.uk/ukpga/2000/37/contents>.

⁶ Environment Act 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents>. [Accessed November 2025].

⁷ Natural Environment and Rural Communities Act 2006. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents>. [Accessed November 2025].

Type	Name	Relevance to Assessment
	Act 2021) (the 'NERC Act')	lists of species and habitats of principal importance for biodiversity conservation in England.
	Protection of Badgers Act 1992 ⁸	The Protection of Badgers Act provides protection to badgers and their places of shelter (setts).
National planning policy	NPS EN-1 ⁹	Section 4.6 outlines requirements for the delivery of environmental and biodiversity net gain. Section 5.4 reiterates protection and assessment requirements for biological features of varying levels of importance.
	NPS EN-3 ¹⁰	Section 2.12 reiterates protection and assessment requirements for onshore wind projects relating to biodiversity, cross referencing overarching policy in EN-1 detailed above.
	NPS EN-5 ¹¹	Section 2.5 reiterates the need to consider environmental and biodiversity net gain – cross referencing overarching policy in EN-1.
	NPPF ¹²	Section 15 details requirements for planning policies and decision to ensure that projects contribute to, and enhance, the natural environment.

⁸ Protection of Badgers Act 1992. Available at: <https://www.legislation.gov.uk/ukpga/1992/51/contents>. [Accessed November 2025].

⁹ Overarching National Policy Statement for Energy (EN-1). Available at: <https://assets.publishing.service.gov.uk/media/695d1015f41883f4e50ed9ab/overarching-national-policy-statement-for-energy-en-1-web-accessible.pdf>.

¹⁰ National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025>

¹¹ National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025>

¹² National Planning Policy Framework (2025). Available at: <https://www.gov.uk/guidance/national-planning-policy-framework>. [Accessed November 2025].

Type	Name	Relevance to Assessment
	NPPF draft text for consultation ¹³	Section 19 details policies to influence the design and location of new development to help drive nature’s recovery and contribute to wider environmental outcomes, safeguarding the most important habitats, species and landscapes and recognising the centrality of natural capital to delivering sustainable growth.
Local planning policy	Calderdale Local Plan 2018/19 – 2032/33 Written Statement (March 2023) ¹⁴	<p>Planning policies considered of relevance include:</p> <ul style="list-style-type: none"> • Policy CC6 (Part 1) Assessment of Proposals for Renewable and Low Carbon Energy; • Policy GB1 Development in Green Belt; • Policy GN1 Securing Green Infrastructure Provision; • Policy GN2 A Joined-Up Green Infrastructure Network; • Policy GN3 Natural Environment; • Policy GN4 Landscape; • Policy GN5 Trees; and • Policy GN8 Protection of Local Green Spaces.
	Calderdale Council - Supplementary Planning Document (SPD) for Biodiversity Net Gain (BNG) ¹⁵	This document provides detailed guidance for the application of BNG within Calderdale and will be referred to as part of the BNG calculations (that will be provided with the ES).

¹³ National Planning Policy Framework (2025) Plan-making and national decision-making policies.

Available at: National Planning Policy Framework: draft text for consultation.

¹⁴ Calderdale Council (2023) Local Plan 2018/2019 to 2032/33. Available at: <https://calderdale-consult.objective.co.uk/kse/event/37273>. [Accessed November 2025].

¹⁵ Calderdale Council - Supplementary Planning Document (SPD) for Biodiversity Net Gain (BNG). Available at: https://calderdale.objective.co.uk/portal/planning_services/supplementary_planning_documents/adopted_biodiversity_net_gain_spd?pointId=6186837. [Accessed November 2025].

Type	Name	Relevance to Assessment
	Calderdale Council - Calderdale Ecological Emergency Action Plan (August 2024-30) ¹⁶	The Calderdale Ecological Emergency Action Plan aims to protect and restore at least 30% of the borough's land and water for nature by 2030, addressing the ecological crisis and climate change.
	Local Plan for the Bradford District – Core Strategy Development Plan Document, Adopted July 2017 ¹⁷	Planning policies considered of relevance include: <ul style="list-style-type: none"> • EN6: Energy; • SC8: Protecting the South Pennines Moors and the South Pennine Moors SAC and their Zone of Influence (Zoi); • TR2: Transport and Environment (e. The protection of wildlife); • EN2: Biodiversity and Geodiversity; and • EN3: Trees and Woodland.
	Pendle Local Plan Fourth Edition (2021-2040) Adopted 18 th December 2025	Planning policies considered of relevance include: <ul style="list-style-type: none"> • DM04: Biodiversity Net Gain; • DM05: Ecological Networks; • DM06: Green Infrastructure; • DM08: South Pennine Moors; • DM13: Environmental Protection; and • DM15: Soils, Minerals and Waste;
National guidance	Guidelines for Ecological Impact Assessment in the UK and Ireland (Chartered Institute of Ecological	Sets out the industry standard approach to Ecological Impact Assessment (EclA) for assessing the potential effects of a Proposed Development on ecological receptors.

¹⁶ Calderdale Council - Calderdale Ecological Emergency Action Plan (August 2024-30). Available at: <https://new.calderdale.gov.uk/sites/default/files/2025-01/Calderdale-ecological-emergency-action-plan-2024.pdf>. [Accessed November 2025].

¹⁷ Bradford Council (2017) Local Plan for the Bradford District. Core Strategy Development Plan. Available at: <https://www.bradford.gov.uk/Documents/planningStrategy/10/Adopted%20core%20strategy//1%20Core%20Strategy%20full%20document.pdf> [Accessed September 2025].

Type	Name	Relevance to Assessment
	and Environmental Management (CIEEM) 2018) ¹⁸	
	British Standard 42020:2013 Code of Practice for Planning and Development ¹⁹	British Standard 42020 makes recommendations to incorporating biodiversity into each stage of the planning process.
	British Standard 8683:2021 Process for designing and implementing biodiversity net gain ²⁰	British Standard 8683 makes recommendations for the design and implementation of BNG.
	NatureScot – Bats and Onshore wind turbines – survey, assessment and mitigation (2021) ²¹	Provides guidance for the assessment of impacts of onshore windfarms on bats. This has been adopted to inform survey planning and design and assessment approaches.
Local guidance	Calderdale Council – Biodiversity Net Gain ²²	Local guidance used alongside Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Net Gain Statutory Metric guidance ²³ to ensure any proposed approach to

¹⁸ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

¹⁹ British Standard Institution (2013) Biodiversity: Code of Practice for Planning and Development: Available at: <https://knowledge.bsigroup.com/articles/standardizing-biodiversity-in-planning-and-development>. [Accessed November 2025].

²⁰ British Standard Institution (2021) Process for designing and implementing Biodiversity Net Gain. Specification. Available at: <https://knowledge.bsigroup.com/products/process-for-designing-and-implementing-biodiversity-net-gain-specification> [Accessed November 2025].

²¹ NatureScot (2021). Bats and onshore wind turbines – survey assessment and mitigation. Available at: <https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation>. [Accessed November 2025].

²² <https://new.calderdale.gov.uk/planning-and-building-control/bng>.

²³ Department for Environment, Food and Rural Affairs (2024). The Statutory Biodiversity Metric – User Guide. Available at: https://assets.publishing.service.gov.uk/media/689c5ee17b2e384441636196/The_Statutory_Biodiversity_Metric_-_User_Guide_-_July_2025.pdf [Accessed November 2025]

Type	Name	Relevance to Assessment
		surveys and assessment are compliant.
	Calderdale Local Requirements Template for Biodiversity and Geological Conservation – Local List Requirement, published July 2013 ²⁴	Local guidance used alongside CIEEM approved guidance (see above) to inform proposed approaches to species and habitat surveys.
	Calderdale Countryside & Forestry Unit (2025). Calderdale Species Inventory ²⁵	Identifies local and regional priority species within Calderdale and West Yorkshire respectively.
	West Yorkshire Ecology Services – Bats and Wind Turbines. Developer Guidance – Assessing the impacts of wind turbines and wind farms on bats ²⁶	Local guidance used alongside national guidance to ensure surveys and assessment were compliant with local guidance.

8.3 Scoping and Stakeholder Engagement

2025 Scoping Opinion

- 8.3.1 In September 2025, a request for a Scoping Opinion was submitted alongside a Scoping Report to the Planning Inspectorate (PINS) under the Planning Act 2008. The Scoping Opinion forms the primary statutory basis for defining the scope

²⁴ Calderdale Council (2013) Local Requirements Template for Biodiversity and Geological Conservation – Local List Requirement: Available at: <https://new.calderdale.gov.uk/sites/default/files/2023-06/Biodiversity-Geological-Conservation-Validation-Checklist.pdf>. [Accessed November 2025].

²⁵ Calderdale Countryside & Forestry Unit (2025). Calderdale Species Inventory. Available at:

<https://www.calderdale.gov.uk/environment/countryside/conservation/publications/speciesaudit/Countryside-species-audit-2025.pdf>. [Accessed November 2025].

²⁶ West Yorkshire Ecology Services - Bats and Wind Turbines. Developer Guidance – Assessing the impacts of wind turbines and wind farms on bats. Available at: <https://www.wyjs.org.uk/media/1375/1000527-wind-turbines-and-bats-in-west-yorkshire.pdf>. [Accessed November 2025].

of the EIA. **Table 8-2** presents the details of the PINS Scoping Opinion relevant to Biodiversity and confirms how these have been addressed within the proposed scope of assessment.

- 8.3.2 Detailed responses were also received from Natural England and **Table 8-3** provides a summary of the key topics, comments and recommendations.
- 8.3.3 Scoping Opinion comments relating to the South Pennine Moors Phase 2 SPA are addressed in **Chapter 9: Ornithology**.

Table 8-2: Consideration of PINS Scoping Opinion

PINS ID	Summary of Scoping Opinion	Consideration within Proposed Scope of Assessment
3.2.1	<p>The Scoping Report details surveys undertaken to date. Surveys carried out to inform the Scoping Report demonstrate no evidence of badger or suitable habitat for badger within the array area. Based on this, the Inspectorate is content that should this remain, this matter can be scoped out for the array area.</p>	<p>Preliminary assessment for badger has been scoped out with respect to the Turbine Area. Further surveys are required to confirm presence/absence from Access Routes and the Bradford West Cable Corridor.</p>
3.2.2	<p>The Scoping Report details surveys undertaken to date. Surveys carried out to inform the Scoping Report demonstrate that no suitable habitat for dormouse occurs within the turbine area. Based on this, the Inspectorate is content that should this remain, this matter can be scoped out for the turbine area.</p>	<p>Preliminary assessment for dormouse has been scoped out with respect to the Turbine Area. Further habitat surveys are required to consider the potential for dormouse within the Access Routes and Bradford West Cable Corridor.</p>
3.2.3	<p>References in this column refer to the cable corridor search area and not the access search area as noted in the table title. Due to this confusion, no comments are provided on this table.</p>	<p>Approach to preliminary assessment of Access Routes and Bradford West Cable Corridor is precautionary due to the extent of site surveys completed to date.</p>
3.2.4	<p>The ES should demonstrate how the study area has been informed by potential impact-pathways and where possible, should be agreed with relevant consultation bodies.</p>	<p>The study area is described in Section 8.4 and associated baseline reports (Appendices 8-1 – 8-4) with reference to where this has been extended beyond the boundary of the Proposed Development, as necessary.</p>

PINS ID	Summary of Scoping Opinion	Consideration within Proposed Scope of Assessment
3.2.5	<p>The Scoping Report sets out the locations of static bat detectors. The ES should consider the potential for significant effects beyond the proposed order limits for this and other mobile species.</p> <p>The ES should also include full information of the static bat detectors which may have an influence on the survey results including location and height.</p>	<p>Full details of bat surveys completed in 2023 and 2025 are provided in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024) and Appendix 8-4 and include specific details relating to location and height of deployment. Desk study and survey have been used to identify potential offsite receptors for bats following good practice guidance²⁷ (as detailed in Section 8.2).</p>
3.2.6	<p>The Scoping Report notes that “<i>Habitat surveys of the Cable Corridor Search Areas and Site Access Search Areas will be completed following identification of the preferred options</i>”.</p> <p>It is not clear from this statement, how such survey work will inform the preferred cable corridor option. The ES should explain how survey work and environmental constraints influence any preferred options for cable and access routes.</p>	<p>An initial review of designated sites has been undertaken to inform the Bradford West Cable Corridor. Desk and field-based surveys will identify sensitive habitats/receptors and advise design approaches and options of micro-siting/re-routing, as necessary.</p>
3.2.7	<p>The Scoping Report notes a number of surveys which have been undertaken to date but notes limitations to these and restrictions in areas of the Proposed Development limits surveyed. The Applicant should collect data as far as possible for the whole of the Proposed Development, but where this has not been</p>	<p>The preliminary assessment identifies limitations in data collection and how this will be addressed through further survey and/or analysis. This is provided in Section 8.8. Limitations across baseline data collection will be identified and reported in the ES.</p>

²⁷ Collins, J. (ed) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

PINS ID	Summary of Scoping Opinion	Consideration within Proposed Scope of Assessment
	<p>possible for the reasons set out, the ES needs to provide details of where surveys were restricted and demonstrate how gaps in the assessment have been filled, such as through other data collection means, and through agreeing an approach to data collection with relevant consultation bodies. The ES should also set out how data collection has affected the design.</p>	
3.2.8	<p>The Applicant should seek to agree habitat classifications with relevant consultation bodies to inform assessments. Clear figures depicting these should be provided in the ES.</p>	<p>The approach to habitat surveys has been discussed with Natural England through consultation. Advanced habitat surveys (National Vegetation Classification (NVC)) have been completed in 2025 and will be continued in 2026. The current habitat baseline and approach to survey and analysis are presented in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024). The final set of data will be presented in the ES.</p>
3.2.9	<p>The ES should consider the potential for the construction, operation and decommissioning of the Proposed Development to change habitat presence and composition, for example as a result of dewatering of peat. The ES should assess the consequential impact of altering supporting habitat for species within the red line boundary.</p>	<p>Habitat degradation and subsequent changes to habitats was identified as a potential effect for assessment and will be included within the ES. Preliminary assessment of habitat loss and degradation includes consideration of hydrological, pollution and air quality impacts alongside direct loss of habitat. This is included in Section 8.8.</p>
3.2.10	<p>It is noted that Walshaw Dean Reservoir is outside of the order limits and scoping boundary but located within the turbine area. The ES should ensure that impacts on the Walshaw Dean reservoir from the Proposed Development are assessed for all phases of the development. EA in its consultation response</p>	<p>Requirements for further surveys will be considered and a proportionate level of baseline data gathered, to be agreed with relevant consultees. Surveys for amphibians and reptiles have been included as part of baseline data collection activities. The final set of data will be presented in the ES. Although outside of the PEIR Boundary, consideration of</p>

PINS ID	Summary of Scoping Opinion	Consideration within Proposed Scope of Assessment
	<p>highlighted that suitable habitat is present within and adjacent to the order limits for aquatic species.</p> <p>Surveys for fish and other aquatic species should be undertaken beyond those proposed for white-clawed crayfish; this should include the consideration of amphibians and reptiles.</p>	<p>aquatic species and habitats which connect to the Walshaw Dean Reservoir are included as part of the assessment drawing upon the information in Chapter 10: Hydrogeology, Hydrology, Geology and Peat.</p>
3.2.11	<p>The table in relation to National (UK) sites, makes reference to agreement with NRW without any explanation. Where agreement with a consultation body is stated, details of this should be evidenced within the ES.</p>	<p>This was an error. All consultation will be made with the relevant consultees and reported in the ES.</p>
3.2.12	<p>The Scoping Report is not clear as to whether the Applicant intends to offset the effects of the Proposed Development on Great Crested Newts (GCN) by obtaining a licence through the NE District Level Licensing (DLL) scheme or via a NE Mitigation Licence.</p>	<p>At the scoping stage, it was unclear if any infrastructure or development was expected to have an impact on great crested newt.</p> <p>Following refinement of the design of the Proposed Development, preliminary assessment has been undertaken. As DLL is not currently available in Calderdale or Bradford, impacts on GCN will be subject to Natural England Mitigation Licensing. DLL is available in Pendle and may be used, where required. Preliminary assessment of effects and proposed licencing is described in Section 8.8.</p>

Table 8-3: Consideration of Natural England Scoping Opinion Response

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
South Pennine Moors SAC	<p>Multiple impact pathways identified, including:</p> <ul style="list-style-type: none"> • Permanent Loss; • Temporary loss/damage of SAC Habitat; • Hydrological Impacts (including water supply, and water quality); • Air Quality Impact; • Recreational Impacts; and • Impacts of BNG. <p>NE provided detailed recommendations and expectations for approaches to baseline survey, data analysis and assessment of impacts on the South Pennine Moors SAC. Full details are available in the Scoping Response²⁸.</p>	<p>Impact pathways identified by Natural England have been scoped in for assessment within the EIA, with preliminary assessment presented within Section 8.8. The approaches to baseline data collection for habitats have been subject to discussion/engagement with Natural England. The methodology for collection and interpretation of data relating to habitats within the SAC is provided in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024).</p>
South Pennine Moors SSSI	<p>Potential impacts broadly similar to the South Pennine Moors SAC.</p> <p>Assessment needs to consider other features which are included within the SSSI designation including;</p> <ul style="list-style-type: none"> • Acid grassland; and • Short Sedge acidic fen. 	<p>Separate assessment of SSSI and its additional features will be considered as part of the ES. The preliminary assessment is presented in Section 8.8.</p>

²⁸ Natural England (2025) Environmental Impact Assessment Scoping Consultation under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 – Regulation 11. Written response dated 29th September 2025.

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
	<p>Surveys, analysis and assessment methods applicable to the SAC are recommended for the SSSI site.</p>	
<p>Other SSSI and NNR Sites</p>	<p>Multiple impact pathways identified, including:</p> <ul style="list-style-type: none"> • Potential loss/damage of habitat; • Potential water quality/supply impacts; and • Potential air quality impacts (e.g. dust) <p>Multiple SSSI sites were identified occurring within or closely adjacent to the cable corridor search area. Responses identified a need for full assessment of potential impacts on these sites.</p>	<p>Consideration/scoping of potential effects on these sites associated with the Bradford West Cable Corridor is included in Sections 8.5 and 8.7.</p>
<p>Bats</p>	<p>NE noted existing survey effort and commitment to assemble suitable levels of data.</p> <p>Further surveys were recommended of the grid connection, access route and compensation search areas where applicable.</p> <p>Advised that should further surveys identify bat features that assessment and licencing may be applicable and engagement with NE's Wildlife Licensing Service should be sought.</p>	<p>Updated baseline information provided in Appendix 8-3: Habitat Baseline Report (2023-2025) and Appendix 8-4. Preliminary assessment and approach to final analysis presented in Section 8.8. Further consultation on the assessment of effects on protected species will be sought and presented in the ES.</p>
<p>GCN</p>	<p>NE identify likely requirement for updated surveys. Including grid connection, access and compensation search areas where applicable.</p>	<p>Updated baseline information provided in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024). Preliminary assessment and</p>

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
	<p>NE note that District Level Licencing is not available in this area therefore any impacts may require mitigation licencing and engagement with NE’s Wildlife Licencing Service should be sought.</p>	<p>approach to final analysis presented in Section 8.8. Update surveys planned for 2026.</p>
Badgers	<p>NE noted the results and assumptions relating to badger and their assumed absence from the Turbine Area.</p> <p>NE identify likely requirement for updated surveys. Including grid connection, access and compensation search areas where applicable.</p> <p>Advised that should further surveys identify potential for badger that assessment and licencing may be applicable and engagement with NE’s Wildlife Licencing Service should be sought.</p>	<p>Badger scoped out of assessment for Turbine Area only. Surveys of Access Routes and Bradford West Cable Corridor are to be undertaken in spring/summer 2026.</p>
Dormice	<p>NE agreed with reasoning and assumption that suitable habitat for dormice was absent from the Turbine Area.</p> <p>NE identify likely requirement for consideration within the grid connection, access and compensation search areas where applicable.</p>	<p>Dormice scoped out of assessment for Turbine Area only. Surveys of Access Routes and West Bradford Cable Corridor are to be undertaken in 2026.</p>
Biodiversity Net Gain	<p>The Environment Act 2021 includes Nationally Significant Infrastructure Project (NSIPs) in the requirement for BNG, with the biodiversity gain objective for NSIPs defined as at least a 10% increase in the pre-development biodiversity value of</p>	<p>In anticipation of the introduction of BNG for NSIPs in May 2026, the approach to BNG has been outlined as part of this preliminary assessment (as provided in Section 8.6) and takes note of Natural England’s advice relating</p>

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
	<p>the on-site habitat. It is the intention that BNG should apply to all terrestrial NSIPs accepted for examination from March 2026.</p> <p>Natural England welcome the commitment to deliver BNG on the project and recommended that the target increase in BNG of 10% across all biodiversity unit types is secured in the Development Consent Order (DCO).</p> <p>Natural England highlight that BNG can only be delivered within a terrestrial designated site via enhancement of non-designated feature</p> <p>Natural England also highlight how BNG should be delivered alongside other mitigation and compensation (for designated sites or protected species). Natural England advise that the purpose of specific measures should be clear and the amount of statutory mitigation or compensation required should be calculated before BNG calculations are agreed.</p> <p>Natural England advise that due to the nature of the project and scale of assessment which will be required, assessing the designated site impacts and other ecological impacts should be the initial priority.</p>	<p>to irreplaceable habitats and delivery within designated sites.</p> <p>The approach to BNG will be reviewed following publication of statutory guidance regarding NSIPs and BNG and will be consulted upon further with Natural England and other relevant stakeholders, including the Local Planning Authorities.</p>
Irreplaceable Habitat	Natural England advise that Irreplaceable Habitats should be avoided, with any impacts permitted only in exceptional	In line with Natural England’s comment relating to delivery of BNG with respect to other priorities, BNG calculations will only be

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
	<p>circumstances. Avoidance of adverse impact of these key habitats is key. Where there are impacts to Irreplaceable Habitats, enhancement of Irreplaceable Habitats cannot form part of the BNG calculation.</p>	<p>completed following agreement of compensation/mitigation approaches for designated sites and protected species.</p>
<p>Ancient Woodland and veteran trees</p>	<p>Natural England note that ancient woodland is present in multiple locations within the cable and site access search areas.</p>	<p>Consideration/scoping of potential effects on ancient woodland and veteran trees is included through Section 8.5 and Section 8.7 of this Chapter. Details of updated desk study data are presented in Appendix 8-1: Desk Study Report. Search areas presented in the Scoping Report covered much larger areas than the preferred routes presented in this PEIR.</p>
<p>Hydrological impacts</p>	<p>Natural England note that the assessment of hydrological impacts needs to sufficiently account for the functional extent of the peatland system across the site. Natural England considers that the current scoping report does not demonstrate that a sufficient level of detail will be provided in the ES to ensure the ecohydrology of the wider ecosystem function will be assessed.</p> <p>Natural England provided detailed recommendations for further study, survey and analysis to assess the link between hydrology and the designated habitat features of the SAC and SSSI.</p>	<p>Further hydrological survey and assessment will be completed and presented in the ES as detailed in Chapter 10: Hydrogeology, Hydrology, Geology and Peat.</p>

Ecological Features	Summary of Scoping Opinion Response	Consideration within Scope of Assessment
	<p>A particular outcome of the assessments should be to sufficiently account for the functional ecohydrological extent of the peatland system across the whole site, rather than solely focusing on immediate and/or buffered areas that relate to the Proposed Development itself. Peatland habitat is highly sensitive to change, and some impacts may take time to propagate across the site, so the assessments will need to ensure any longer-term effects are considered throughout the ecosystem. All hydrological assessments should be suitable in order to make this assessment appropriately.</p>	

2023 Scoping Opinion

- 8.3.4 In July 2023, as part of an original Town and Country Planning Act 1990 (TCPA) application approach, an EIA Scoping Report was submitted to Calderdale Council, for a proposed wind farm development and associated infrastructure, including grid connection at broadly the same location as the Proposed Development (the ‘2023 EIA Scoping Report’).
- 8.3.5 Responses to the 2023 EIA Scoping Report were also received from relevant consultees including Calderdale Council, Bradford Council, the Environment Agency (EA), Royal Society for the Protection of Birds (RSPB), Yorkshire Wildlife Trust (YWT) and Ban the Burn.
- 8.3.6 Natural England provided a detailed response (Natural England 2023 – Reference 451109) to the 2023 EIA Scoping Report, providing specific advice relating to International and European Sites and the requirement for the completion of a HRA under the Habitats Regulations. Natural England also provided specific survey requirements, highlighting requirements for NVC surveys and potential impacts on irreplaceable habitats, including blanket bog. Also included were recommendations for peat depth measurement and hydrological surveys.
- 8.3.7 These responses shared common themes, highlighting the potential sensitivity of the habitats and species present within the designated sites including irreplaceable habitats (blanket bog) and international and nationally important bird populations.
- 8.3.8 The responses received have informed approaches to baseline data collection throughout the period between 2023 – 2025.

Further Stakeholder Engagement

- 8.3.9 An overview of other engagement (beyond the Scoping Opinion) undertaken to date for biodiversity, and how this has informed the scope of the assessment is provided in **Table 8-4**.

Table 8-4: Engagement Undertaken

Consultee	Type and Date	Summary of Discussion	Discussion Response
Natural England	Meeting – 20 May 2025	An introductory meeting was held in May 2025 with Natural England to provide an overview of the current status of the project, baseline surveys and assessments.	Inputs from Natural England have been used to inform approaches to mitigation/compensation, with specific consideration of

Consultee	Type and Date	Summary of Discussion	Discussion Response
		<p>Specific questions relating to BNG and habitat mitigation/compensation were shared with Natural England. This included confirmation of requirements for:</p> <ul style="list-style-type: none"> • Compensation for irreplaceable habitats; • Restrictions relating to the delivery of mitigation, compensation and habitat enhancement within designated sites; and • How BNG is anticipated to be applied within SAC/SSSI sites. 	<p>how habitat creation or enhancement can be considered.</p> <p>Further details and an approach to habitat mitigation and compensation will be consulted on further with Natural England and other relevant stakeholders ahead of the final ES.</p>
	<p>Written – 1 July 2025</p> <p>UDS – A019065</p>	<p>Natural England provided written consultation via the Discretionary Advice Service (DAS). This provided detailed recommendations for the approaches to be taken for assessment of impacts on the South Pennine Moors SAC and South Pennine Moors Phase 2 SPA. It also provided initial advice relating to compensation and additionality.</p>	<p>Inputs from Natural England have been used to inform approaches to assessment and mitigation/compensation relating to the South Pennine Moors SAC and South Pennine Moors Phase 2 SPA. This has included specific consideration of how habitat creation or enhancement can be considered. Further details and an approach to habitat mitigation and compensation will be consulted on further with Natural England and other relevant stakeholders</p>

Consultee	Type and Date	Summary of Discussion	Discussion Response
	Meeting – 10 July 2025	<p>A meeting was held with Natural England to present the approach being taken to HRA. They identified the following:</p> <ul style="list-style-type: none"> • Requirement for the project to develop an evidence plan; • Natural England stated that if areas of blanket bog are in “unfavourable, declining” condition (following Commons Standards Monitoring) then actions to restore that habitat will not be considered compensation as the objectives of the SAC and /SPA include a commitment to restore the extent and condition of habitats to a favourable condition; and • Natural England have a preference for NVC survey where there is botanically diverse habitat. 	<p>ahead of the final ES.</p> <p>Approaches to the HRA have been considered alongside the approach to assessment as part of the EIA process. Approaches to assessment and survey have been developed taking into account the inputs from Natural England. This includes commitments to delivery of extensive NVC survey and approaches to mitigation and compensation.</p>
	Site meeting – 1 October 2025	<p>A site meeting was held with representatives of Natural England to visit sample locations within the Turbine Area. This was an opportunity to visit and view habitats within the SAC/SPA and discuss the condition of the habitats.</p>	N/A
	Meeting 22 January 2026	<p>A meeting was held with Natural England to discuss comments following provision</p>	<p>The information provided will be used to finalise both documents</p>

Consultee	Type and Date	Summary of Discussion	Discussion Response
		<p>of a draft HRA Screening and HRA Evidence Plan.</p> <p>Natural England have provided detailed recommendations for the inclusion of additional baseline information and further recommendations for the identification of Likely Significant Effects.</p>	<p>and helps to inform the approach to the Appropriate Assessment.</p> <p>Where applicable, recommendations have been and will be considered as part of the assessment for the South Pennine Moors SAC, SPA and SSSI in the ES.</p>

8.4 Assessment Methodology

Study Area

- 8.4.1 The study area encompasses the area for which desk-study and field-survey data were collected to inform PEIR and will continue to be collected for further assessment in the ES.
- 8.4.2 The extent of the study area varies depending on the relative sensitivity of the ecological features and the (Zol) of different components of the Proposed Development. Separate study areas have therefore been applied to the Turbine Area, Access Routes and Bradford West Cable Corridor. These are defined below for desk study (**Table 8-5**) and site surveys (**Table 8-6**) and shown on **Figures 8-1** and **8-2**.
- 8.4.3 The extent of the areas of search and field survey areas were determined based on good practice guidance²⁹ taking into account the Zol of the Proposed Development.
- 8.4.1 A desk study has been undertaken to identify designated sites, habitats and records of protected and notable species which occur within the search distances defined in **Table 8-5**. Different search distances have been applied to the Turbine Area and the Access Routes/Bradford West Cable Corridor, respectively. This reflects the relative magnitude of the anticipated impacts and ensures that the information

²⁹ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

generated is proportionate to the different components of the Proposed Development and the potential ecological features being identified.

8.4.2 The search distances used consider the Zols of activities associated with the Proposed Development and have been determined using a combination of professional judgement and survey/mitigation guidance ecological features (where applicable). Search distances were measured from the boundary of each component of the Proposed Development as described in **Appendix 8-1: Desk Study Report**.

Table 8-5: Summary of Search Distances for Desk Study

Ecological Feature	Turbine Area – Search Distance	Access Routes and Bradford West Cable Corridor– Search Distance
International statutory designated sites (SAC/Ramsar sites) ³⁰	10km (Special Area of Conservation)	2km
National statutory designated sites (SSSI, National Nature Reserves (NNR))	5km	2km
Local statutory designated sites (Local Nature Reserves)	2km	1km
Non-statutory designated sites (Local Wildlife Sites (LWS))	2km	1km
Priority Habitats (including ancient woodland)	1km	500m
Protected and notable species	2km	1km
Ponds and waterbodies ³¹	500m	500m
Veteran trees	500m	500m
Statutory Main Rivers	500m	500m

8.4.3 Baseline surveys were started in 2023 and have been ongoing throughout 2024 and 2025 and a summary of results and methods used is provided in **Appendices**

³⁰ SPAs are considered and assessed within **Chapter 9: Ornithology**. Therefore, these sites are not included further within this chapter.

³¹ Search distance for Ponds and waterbodies is determined based on Natural England standing guidance with respect to great crested newts. Great crested newts: advice for making planning decisions - GOV.UK

8.2 – 8.4. The results of these surveys have been used to inform this PEIR and will form the baseline dataset for the ES. Requirements for species specific survey effort within the Bradford West Cable Corridor and the Access Routes will be subject to confirmation following completion of extended habitat surveys, where access is possible.

Sources

8.4.4 Data has been gathered from a range sources to inform the baseline conditions within the study areas including desk study and field survey.

8.4.5 Desk study sources comprise the following, and are referenced throughout the chapter, where required:

- Designated sites, habitats and protected species information – Magic.gov.uk³²;
- Designated sites details – Natural England’s designated sites website³³;
- Priority Habitat Inventory and Ancient Woodland Inventory – provided on Magic.gov.uk³² and Ancient Tree Inventory³⁴;
- Waterbodies, watercourse information and high-level habitat identification – Satellite imagery (Google Earth), Ordnance Survey (OS) mapping³⁵ and Statutory Main River Map³⁶;
- Protected species and non-statutory designated site information;
 - West Yorkshire Ecology Service (WYES);
 - Lancashire Environment Record Network; and
 - West Yorkshire Bat Group.

8.4.6 Full desk study results are presented in **Appendix 8-1: Desk Study Report**.

³² Multi-Agency Geographic Information for the Countryside (MAGIC). Available at: www.magic.gov.uk.

³³ Available at <https://designatedsites.naturalengland.org.uk/>.

³⁴ Available at <https://ati.woodlandtrust.org.uk/tree-search/>.

³⁵ Ordnance Survey (OS) (2025). Open Rivers. Available at OS Open Rivers Documentation | OS Download Products' Documentation [accessed December 2025]

³⁶ Environment Agency (2025). Statutory Main Rivers Map. Available at: <https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386> [accessed 25th February 2026].

- 8.4.7 Field surveys have been completed covering a wide range of habitat and species. **Table 8-6** provides a summary of the surveys completed to date and the relevant guidance followed. Full details of methods and results are provided in **Appendices 8-2 – 8-4**, with a summary of results provided in **Section 8.5**.

Table 8-6: Summary of Field Survey Approaches up to the End of 2025

Survey Type	Summary of Survey Purpose	Survey Guidance	Date Completed	Study Area ³⁷
High-Level habitat walkover assessment	Designed to provide an initial overview of the distribution of habitats within the Turbine Area and identify requirements for additional surveys.	<ul style="list-style-type: none"> Butcher, B., Carey, P., Edmonds, R., Norton, L., and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at http://www.ukhab.org. 	March and August 2023	Within Turbine Area
UK Habitat Classification and Condition Assessment	Designed to classify habitats present on site using relatively broad habitat types. Condition assessments to support BNG calculations were completed alongside this.	<ul style="list-style-type: none"> Butcher, B., Carey, P., Edmonds, R., Norton, L., and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1 at http://www.ukhab.org Department for Environment Food and Rural Affairs (2024). The Statutory Biodiversity Metric – User Guide. 	September – November 2023 (Turbine Area) September 2025 (Western Access Route)	Within Turbine Area and Western Access Route
NVC Surveys	Designed to provide detailed botanical information to enable identification of specific habitat types and inform impacts on sensitive habitats.	Rodwell, J.S. (2006) NVC Users' Handbook, JNCC, Peterborough, ISBN 978 1 86107 574 1.	September – October 2024 July – September 2025	Within Turbine Area and Western Access Route

³⁷ Note that due to the distances between the proposed infrastructure and anticipated construction working areas, typical buffers for surveys have been inherently incorporated by surveying the Turbine Area as a whole.

Survey Type	Summary of Survey Purpose	Survey Guidance	Date Completed	Study Area ³⁷
Modular (MoRPH) River Surveys	Surveys designed to provide detailed condition assessment surveys for watercourses.	<ul style="list-style-type: none"> The Morph Survey Technical Reference Manual (2019) [Online] Available at: https://modularriversurvey.org/wpcontent/uploads/MoRPh-Manual-ver-11.pdf. 	August – September 2024	Within Turbine Area
Reptile Surveys	Surveys included presence/absence surveys for reptiles within the Turbine Area.	<ul style="list-style-type: none"> Froglife Advice Sheet 10. Reptile Survey – An introduction top planning, conducting and interpreting surveys for snake and lizard conservation. 	July – September 2024	Within Turbine Area
Protected Mammal Surveys	Combined surveys designed to identify field signs for badger, otter and water vole.	<ul style="list-style-type: none"> Bang, P. & Dahlstrøm, P. (2001). Animal Tracks and Signs. Oxford University Press, Oxford. Sargent, G., Morris, P. and Troughton, G. (2003). How to Find and Identify Mammals, 3rd Edition. The Mammal Society, Southampton. Neal, E., Cheeseman, C. (1996). Badgers. Poyser Natural History, London Chanin, P. (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers: Monitoring Series No. 10. English Nature, Peterborough. Strachan, R., Moorhouse, T. & Gelling, M. (2011). The Water Vole Conservation Handbook. Third Edition, 	September – November 2023	Within Turbine Area

Survey Type	Summary of Survey Purpose	Survey Guidance	Date Completed	Study Area ³⁷
		Wildlife Conservation Research Unit, University of Oxford, Abingdon.		
Static Acoustic Bat Detector Surveys	Designed to provide estimates of bat activity levels and species present.	<ul style="list-style-type: none"> Bat Conservation Trust. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals. [online]. NatureScot (2021) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation, Original 2019, updated August 2021. 	<p>April – October 2023</p> <p>June – October 2025</p>	Within Turbine Area
Bat Emergence Surveys	Designed to identify active bat roosts.	<ul style="list-style-type: none"> Bat Conservation Trust. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals. [online] 	<p>August – September 2024 and August – October 2025</p>	Within Turbine Area + suitable features within 200m of provisional turbine locations
Bat Swarming Surveys	Designed to identify specific swarming behaviour for bats which may indicate presence of hibernating bats.	<ul style="list-style-type: none"> Bat Conservation Trust. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals. [online]. 	August – September 2024	Within Turbine Area

Survey Type	Summary of Survey Purpose	Survey Guidance	Date Completed	Study Area ³⁷
Bat Hibernation Surveys	Designed to identify use of features by hibernating bats.	<ul style="list-style-type: none"> Bat Conservation Trust. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals. [online]. 	October 2024 – February 2025	Within Turbine Area + suitable features within 200m of provisional turbine locations
Great Crested Newt (GCN) – Habitat Suitability Index (HSI) & Environmental DNA (eDNA)	<p>HSI surveys provide an overview of pond characteristics and their suitability to support GCN.</p> <p>eDNA surveys provided presence/absence data for sampled water bodies.</p>	<ul style="list-style-type: none"> Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (<i>Triturus cristatus</i>). <i>Herpetological Journal</i> 10(4), 143-15. Biggs J et al, (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (<i>Triturus cristatus</i>). 	June 2024	Within Turbine Area + 250m (ponds and waterbodies only)
High-Level Fungi Walkover	Designed to identify the presence/absence of conservation notable species or assemblages of fungi.	A site visit was undertaken on 29 September and 1 October 2024 to identify areas suitable for the targeted surveys and areas likely to support the most diverse grassland fungal populations. Further surveys were undertaken on 10 October	September – November 2024	Within Turbine Area

Survey Type	Summary of Survey Purpose	Survey Guidance	Date Completed	Study Area ³⁷
		and 5 – 7 November 2024. Sampling techniques included walking rough transects with periodic deviations from the transect where habitat suitability and fungal density dictated.		
High-Level Invertebrate Sampling	Designed to identify the presence/absence of conservation notable species or assemblages of invertebrates.	A total of 19 sampling points were targeted to survey invertebrates from within the Turbine Area. Samples were collected from areas of heathland and bog habitats, with experienced surveyors using professional judgement to identify the most suitable habitats for rare invertebrates.	September – October 2024 and 2025	Within Turbine Area

Methodology

Overview

- 8.4.8 The project-wide approach to the assessment methodology is set out in **Chapter 2: Environmental Impact Assessment** and **Chapter 7: Methodology for the Preliminary Environmental Information Report**. However, whilst this will inform the approach used in the biodiversity assessment, it is necessary to align with the standard industry guidance provided by CIEEM (2018).
- 8.4.9 The assessment will be based upon not only the results of the desk study and field surveys but also relevant published information (for example on the status, distribution, sensitivity to environmental changes and ecology of the features scoped into the assessment, where this information is available) and professional knowledge of ecological processes and functions.
- 8.4.10 Throughout the assessment process, the initial results of the assessment regarding likely significant effects will be used to inform whether additional baseline data collection is required, together with the identification of environmental measures that should be embedded into the Proposed Development to avoid or reduce adverse effects or to deliver enhancements.
- 8.4.11 Where part of a designated site is located within the ecological ZoI relating to a particular biophysical change as a result of the Proposed Development, an assessment will be made of the effects on the designated site as a whole. A similar approach will be taken for areas of notable habitat.
- 8.4.12 For species that occur within the ZoI, the assessment will consider the total area that is used by the affected individuals or the local population of the species (e.g. for foraging or as breeding territories).

Potential Ecological Features and Geographical Context of Importance

- 8.4.13 The starting point for defining which ecological features will be taken forward to the detailed assessment stage will be to use the baseline data collected through the desk study and field surveys to determine which of the identified ecological features are 'important' at the level of the project. Following CIEEM (2018, version 1.3) guidance, the importance of ecological features will be determined using a geographic scale and described in relation to UK legislation and policy, and with regard to the extent of habitat or size of population that may be affected by the Proposed Development.
- 8.4.14 The importance of ecological features can therefore differ from that which will be conferred solely by legislative protection or identification as a conservation notable species. For example, house sparrow is important at a national level (in policy terms) because it is a Section 7 species and features on the Birds of Conservation

Concern red list. However, a small population that could be affected by a development might be assessed as being of local importance only due to the large, albeit declining, UK population (in excess of 5 million pairs).

8.4.15 Wherever practicable, information regarding the extent and population size, population trends and distribution of the ecological features will be used to inform the categorisation and determine importance at the project level. Where detailed criteria or contextual data are not available, professional judgement will be used to determine importance. A description of all determinations of importance is provided in **Table 8-7**. These descriptors have been used to inform the consideration of geographic importance of ecological features in the Chapter below.

Table 8-7: Summary of Importance Criteria³⁸

Geographic Context of Importance	Description
International or European	<ul style="list-style-type: none"> • European sites including SPAs, SACs, candidate SACs and Sites of Community Importance (SCI). Potential and Ramsar sites (designated under international convention). • Areas of habitat or populations of species which meet the published selection criteria based on discussions with Natural England and field data collected to inform the EclA for designation as a European site, but which are not themselves currently designated at this level.
National (UK)	<ul style="list-style-type: none"> • A nationally designated site including SSSIs and NNRs. • Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs³⁹, but which are not themselves designated based on field data collected to inform the EclA, and in agreement with Natural England.

³⁸ Noted that ornithological designations are included to be comprehensive.

³⁹ JNCC (2024). Guidelines for selection of biological SSSIs.
<https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/>

Geographic Context of Importance	Description
	<ul style="list-style-type: none"> • NERC Act Section 41 habitats and species⁴⁰, Red listed⁴¹ and legally protected species⁴² 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 (e.g. woodland listed within the Ancient Woodland Inventory and ancient and veteran trees).
Regional (Northern England)	<ul style="list-style-type: none"> • A national or local designated site which is part of a connected regional conservation network which contributes to protections of habitats and/or species across multiple counties within a geographic sub-section of England. • Species or habitats which are considered to be of “regional” importance, occurring as a population (or area) which is locally significant and notably above county levels (described below).
County (West Yorkshire and Lancashire (Western Access Route only))	<ul style="list-style-type: none"> • LNRs and non-statutory designated sites, including LWS of County Importance. • Areas which, based on field data collected to inform the ES, 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	<ul style="list-style-type: none"> • NERC Act Section 41 habitats and species, Red listed and legally protected species that based on their extent,

⁴⁰ DEFRA (2022) Habitats and species of principal importance in England. Habitats and species of principal importance in England - GOV.UK

⁴¹ Red lists are a globally recognised way of identifying the threat of extinction to species, using the internationally accepted Red List guidelines developed by the International Union for Conservation of Nature (IUCN). In the UK, red lists are compiled by JNCC and species group specialists such as the British Trust for Ornithology.

⁴² In the UK, legally protected species are defined as plants and animals that receive legal safeguarding due to their vulnerability or ecological importance. This protection often includes bans on killing, capturing, or disturbing individuals and on preventing damage to their habitats. The primary legislation governing this protection is the Wildlife and Countryside Act 1981, which also includes the Conservation of Habitats and Species Regulations 2017.

Geographic Context of Importance	Description
	<p>population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above.</p> <ul style="list-style-type: none"> • 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.
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 (e.g. hard standing used for car parking, as roads etc.)

Characterising Ecological Impacts

8.4.16 When considering likely significant effects on ecological features, whether these be adverse or beneficial, the following characteristics of environmental change are taken into account:

- Positive or negative – significant effects can be both positive (i.e. improves the quality of the environment) or negative (reduces the quality);
- Extent – the spatial or geographical area over which the environmental change may occur;
- Magnitude – the size, amount, intensity or volume of the environmental change – as defined in **Table 8-8**;
- Duration – the length of time over which the environmental change may occur;
- Frequency – the number of times the environmental change may occur;
- Timing – the periods during which an environmental change may occur; and
- Reversibility – whether the environmental change can be reversed through restoration actions.

8.4.17 A scale for the magnitude of the environmental change, as a result of the Proposed Development, is described in **Table 8-8** to provide an understanding of the relative change from the baseline position, be that adverse or beneficial changes.

Table 8-8: Guidelines for the Assessment of the Scale of Magnitude of Change

Magnitude of Change	Criteria and Resultant Effect
High	The change permanently (or over the long-term – e.g. >5 years) affects the conservation status of a habitat/species, reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected (e.g. 10% or more). For designated sites, integrity is compromised.
Medium	The change permanently (or over the long-term – e.g. >5 years) affects the conservation status of a habitat/species reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected (e.g. 1-10%).
Low	The quality or extent of designated sites or habitats or the sizes of species' populations, experience some small-scale reduction or increase (e.g. 1-5%). These changes are likely to be within the range of natural variability, and they are not expected to result in any permanent change in the conservation status of the species/habitat or integrity of the designated site.
Very low	Although there may be some effects on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations, means that they will experience little or no change. Any changes are also likely to be within the range of natural variability and there will be no short medium-term (<5 years) or long-term (>5 years) change to conservation status of habitats/species receptors or the integrity of designated sites.
Negligible	A change, the level of which is so low, that it is not discernible on designated sites or habitats or the size of species' populations, or adverse/beneficial changes that balance each other out over the lifespan of a project and result in a neutral position.

Determining significance

8.4.18 The significance of an effect is the product of the magnitude of change and the geographic importance of the ecological feature affected.

8.4.19 CIEEM (2018) defines a significant effect as one “*that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general*”. Adverse effects are assessed as being significant if the favourable conservation status of an ecological feature will be lost as a result of the Proposed Development. Beneficial effects are assessed as those where a resulting change from baseline improves the quality of the environment (e.g. increases species diversity, increases the extent of a particular habitat etc., or halts or slows down an existing decline). For a beneficial effect to be considered significant, the conservation status will need to positively increase in line with a magnitude of change of “high” as described in **Table 8-8**.

8.4.20 Conservation status is defined as follows (as per CIEEM 2018):

“For habitats, conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and typical species within a given geographical area;

For species, conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area”.

8.4.21 The decision as to whether the conservation status of an ecological feature will alter has been made using professional judgement, drawing upon the information produced through the desk study, field survey and assessment of how each feature is likely to be affected by the Proposed Development.

8.4.22 A similar procedure is used where designated sites may be affected by the Proposed Development, except that the focus is on the effects on the integrity of each designated site, defined as:

“The coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified”.

8.4.23 The assessment of effects on integrity draws upon the assessment of effects on the conservation status of the features for which the site has been designated.

Cumulative and In-combination Assessment

8.4.24 Cumulative effects will be assessed in line with the methodology set out in **Chapter 24: Cumulative Effects**, which accords with the PINS Advice on Cumulative Effects Assessment⁴³. A long list of existing, consented, and Proposed

⁴³ Planning Inspectorate (2024). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available at -

Developments will be discussed with the relevant Local Planning Authorities prior to undertaking the assessment. The certainty of these developments will be determined using the tiered approach recommended by PINS. For each environmental topic, the potential Zol of the Proposed Development during construction, operation and maintenance, and decommissioning will be identified. The outcomes of the cumulative effects assessment will be reported within the ES.

Limitations and Assumptions

- 8.4.25 The PEIR Boundary incorporates a broad route for the Bradford West Cable Corridor. Additional baseline surveys are to be completed in these areas to determine the exact route to be taken forward for assessment in the final ES.
- 8.4.26 Terrestrial ecology surveys completed in 2023, 2024 and 2025 have needed to consider the sensitivity of the Turbine Area in relation to the ornithological features of the South Pennine Moors Phase 2 SPA and SSSI. To avoid disturbance and minimise risk of damage to ground nesting birds this has meant that parts of the Turbine Area were not fully accessible during the breeding bird season (covering March – July inclusive). In 2023 and 2025, the deployment of static detectors for bat surveys was not possible in remote parts of the Turbine Area, as access required surveyors or site staff to disturb areas of dense moorland. SSSI Assent was obtained from Natural England ahead of the 2025 survey season to facilitate surveys. However, this applied restrictions to surveys, including the use of established pathways and restrictions around the use of vehicles. Survey specific limitations are detailed where applicable in **Appendices 8-2 – 8-4**.
- 8.4.27 The location of the Proposed Development is remote and the survey areas are large, requiring careful consideration of surveyor safety. Access to remote areas has therefore been restricted to specific times of the year and also, to take into account existing management regimes. Managed as a grouse moor, regular shooting takes place onsite from mid-August until mid-December.
- 8.4.28 Surveys for terrestrial ecology has considered potential impacts on other ongoing surveys. An extensive programme of ornithology surveys is also ongoing (as set out in **Chapter 9: Ornithology**) and have required access to be co-ordinated which as in some instances limited access to certain areas.
- 8.4.29 Detailed descriptions of the nature and extent of decommissioning activities are not available at this stage, therefore a full assessment of effects and their likely significance is not possible. All decommissioning activities will be subject to assessment as part of the ES.

<https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment>.

8.5 Baseline Conditions

Overview

- 8.5.1 The description of the baseline conditions within the PEIR Boundary is separated out in the sections below into the components of the Proposed Development (e.g. Turbine Area, Eastern Access Route, Western Access Route and the Bradford West Cable Corridor), where relevant.
- The Turbine Area is located on the South Pennine Moors and is managed as a grouse moor with areas of sheep grazing. This area holds SPA, SAC and SSSI designations and supports a range of peatland habitats including extensive areas of blanket bog, wet and dry heathland, flushes and a range of grassland habitats. The habitats have been found to support protected and notable species including amphibians, bats, reptiles and otter with suitable habitat also present for water vole. Given the extent and range of habitats within the Turbine Area it also has potential to support a diverse assemblage of invertebrates. Grassland habitats within the Turbine Area have also been found to support a diverse assemblage of fungi. The condition and distribution of sensitive habitats within the Turbine Area is considered further in the section below and in **Appendix 8-3: Habitat Baseline Report (2023-2025)**.
- 8.5.2 Results of species surveys completed are described in **Appendix 8-2: Terrestrial Ecology Baseline (2023-2024)** and **8-4**.
- 8.5.3 Partial habitat survey coverage of the Western Access Route has been achieved, covering the section between the Turbine Area and Watersheddles Reservoir to the north. This has included survey using the UK Habitat Classification and NVC Surveys. Habitats within this section are broadly similar to those within the Turbine Area, with areas of blanket bog habitat types alongside a mosaic of wet and dry heathland and grassland habitats.
- 8.5.4 A high-level assessment of the habitats within the remaining sections of the Western Access Route as well as the Eastern Access Route and Bradford West Cable Corridor suggest that these cross habitat of varying ecological value and include the following habitats:
- Blanket bog - the western extent of the Bradford West Cable Corridor and Eastern Access Route is likely to support blanket bog along some the margins of the roadsides. The peat depth here ranges between 40-100cm and is close to identified blanket bog to the south. Areas closer to the road may vary, comprising areas of heathland, with thinner peaty soil to areas of modified grassland closer to the road. The Western Access Route is also

likely to be partially covered by blanket bog, particularly to the south near the reservoir and running north-westerly up the side of the road;

- Upland heathland - areas of upland heathland are likely to exist in areas of shallow peaty soils, where there is a mixture of heather and gorse amongst grassland areas. This habitat looks most likely to occur in patches along the cable corridor and access routes, amongst stretches of drier acid grassland;
- Upland acid grassland - this habitat is likely to be quite frequent across the Bradford West Cable Corridor and the Access Routes, particularly from the west to the central areas, where the altitude is above 300m. The full extent is not clear without surveys to assess species composition. From aerial photography it appears that fields are managed as pasture, however, the level of modification is currently unknown. Depending on level of modification, grassland may also be classified as other neutral grassland in some areas;
- Modified grassland - this habitat is likely more frequent in the pastoral fields in the east of the Bradford West Cable Corridor where the habitats are more managed and modified. Ground truthing of species composition is required to confirm whether more diverse grassland habitats are present;
- Lowland dry acid grassland - may exist in small areas of semi-natural grasslands in the eastern extent of the Bradford West Cable Corridor where species diversity and indicator species are frequent enough and altitude is below 300m. Depending on level of modification, this could be classified as other neutral grassland;
- Lowland mixed deciduous woodland - small blocks of this habitat are likely present in the western extent of the Bradford West Cable Corridor;
- Fens (upland and lowland) - this habitat is likely to be supported around streams and channels where the moisture levels are high. The Eastern Access Route may support this habitat along Nab Water, which runs along the eastern boundary of this area. There are also multiple sections of the Western Access Route which cross streams, which may contain this habitat;
- Other mixed woodland - areas of woodland area present which required further distinction of species composition to classify into an appropriate habitat type;
- Ponds - several ponds are present within the Bradford West Cable Corridor and the Access Routes; and

- Developed land; sealed surface / Artificial unvegetated unsealed surface - roads and tracks along the Bradford West Cable Corridor and the Access Routes.

8.5.5 The Chapter has taken a precautionary approach to the consideration of protected and notable species in the remaining sections of the Western Access Route as well as the Eastern Access Route and Bradford West Cable Corridor and will be updated subject to the results of further baseline data collection activities (e.g. field surveys) to be completed in 2026 for the ES.

8.5.6 The baseline information of the study area is summarised below. This Chapter is supported by the following appendices, which provide the detailed results of baseline surveys and analysis completed to date:

- **Appendix 8-1: Desk Study Report;**
- **Appendix 8-2: Terrestrial Ecology Baseline (2023-2024);**
- **Appendix 8-3: Habitat Baseline Report (2023-2025);** and
- **Appendix 8-4: Bat Survey Report 2025.**

8.5.7 **Tables 8-9** and **8-10** provide a summary of the current baseline for key ecological features and define each ecological feature's "importance" following the methodology described in **Section 8.4**.

8.5.8 Field surveys have not been conducted along Bradford West Cable Corridor and Access Routes. Surveys are planned for 2026 and will include an extended habitat survey to confirm habitats present and identify potential features suitable to support protected and notable species or habitats. Where appropriate, further species-specific surveys will be conducted in these areas. The expected approaches are described in **Table 8-11**.

Existing Baseline

8.5.9 A summary of the desk study and baseline survey results is provided in **Table 8-9**. Note that where there are a range of geographic importance across the components of the Proposed Development, the highest importance is reported.

Table 8-9: Summary of Desk Study and Baseline Survey Results – Designated Sites and Habitats

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
Designated sites – international	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2 Terrestrial Ecology Baseline (2023-2024) and Appendix 8-3: Habitat Baseline Report (2023-2025))</p> <p>Includes UK Habitat Classification and NVC</p>	<p>The desk study identified two European Sites within 10km of the Turbine Area, the South Pennine Moors SAC and South Pennine Moors Phase 2 SPA, which are overlapping, sharing a common boundary for approximately 20,944ha (the full extent of the SPA). The South Pennine Moors SAC extends further south and has a larger area of 65,024ha.</p> <p>No additional European Sites were identified within 5km of the Access Routes or Bradford West Cable Corridor.</p> <p>The Turbine Area is 2,227.36ha in extent, of which 2,117.46ha lies within the SAC and SPA. This represents approximately 3% of the SAC total area and 10% of the SPA total area.</p> <p>Habitat surveys and analysis using remote sensing techniques have been completed within the Turbine Area to identify the extent, distribution and condition of designated habitats. Within the Turbine Area and surveyed section of the Western Access Route, this has currently estimated the following areas of peat bog, mire and heathland habitats (as described using NVC categories):</p> <ul style="list-style-type: none"> • 312.26ha - M19a - <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> blanket mire (<i>Erica tetralix</i> sub-community); 	<p>International/International</p> <p>The Turbine Area includes extensive areas of designated habitats which are features of the South Pennine Moors SAC.</p> <p>The Western Access Route also includes areas of designated habitats which are features of the South Pennine Moors SAC.</p> <p>The Eastern Access Route and Bradford West Cable Corridor partially overlap with the boundaries of the South Pennine Moors SAC. Further survey in 2026 will be undertaken to</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<ul style="list-style-type: none"> • 623.06ha – M20 - <i>Eriophorum vaginatum</i> raised and blanket mire; • 106.87ha - M25 - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire; • 37.76ha – M6 - <i>Carex echinata</i> - Sphagnum <i>recurva/auriculatum</i> mire; • 382.25ha - M15 - <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath; • 208.08ha - H12 - <i>Calluna vulgaris</i> - <i>Vaccinium myrtillus</i> heath; and • 196.95ha – H9e - <i>Calluna vulgaris</i> - <i>Deschampsia flexuosa</i> heath (<i>olinia caerulea</i> sub-community). <p>Other widespread habitats include grassland habitats include:</p> <ul style="list-style-type: none"> • 99.95ha - MG6 - <i>Lolium perenne</i> - <i>Cynosurus cristatus</i> grassland; • 92.36ha - U20a - <i>Pteridium aquilinum</i> - <i>Galium saxatile</i> community; • 87.24ha – U2 - <i>Deschampsia flexuosa</i> grassland; and • 51.35ha - M23b - <i>Juncus effusus/acutiflorus</i> - <i>Galium palustre</i> rush-pasture (<i>Juncus effusus</i> sub-community). <p>It is therefore concluded that the following Annex I habitats and designated features of the South Pennine Moors SAC occur within the Turbine Area and the surveyed section of the Western Access Route:</p> <ul style="list-style-type: none"> • 4030 European dry heaths; 	<p>confirm the extent of designated features.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<ul style="list-style-type: none"> • 7130 Blanket Bog; and • 4010 North Atlantic wet heaths with <i>Erica tetralix</i>. <p>Habitats listed within the designation which are not present within the Proposed Development include 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles and 7140 Transition mires and quaking bogs.</p> <p>The results of the NVC surveys and habitat condition assessments indicate that the peatland habitats present remain degraded in nature across much of the Turbine Area, potentially as a result of long-term management as a grouse moor. Sample locations lacked frequent/abundant Sphagnum cover with heather dominant or abundant in the majority of survey quadrats. Other signs of degradation included; abundant or frequent occurrence of grass species including <i>Descampsia flexuosa</i> and <i>Molina Caerulea</i>; evidence of livestock grazing and direct human impacts (including pathways, vehicle tracks and cutting).</p> <p>Following classification of the habitats using a combination of detailed field survey and remote sensing, infill surveys to ground truth and further evaluate the extent and condition of designated habitats within the Turbine Area will be completed in 2026 as described in Table 8-10.</p>	

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<p>The Western Access Route overlaps with 126.37ha⁴⁴ of the South Pennine Moors SAC, in particular where it connects from the existing access road at Watersheddles Reservoir to the Turbine Area. This includes areas of blanket bog habitats (M19a and M20) and a mosaic of other heathland and grassland habitats.</p> <p>The Eastern Access Route and Bradford West Cable Corridor overlap with 3.95ha and 2.82ha of the South Pennine Moors SAC, respectively. This largely includes areas of land either side of existing roads and tracks including part of the A6033, where both routes join the Turbine Area and sections of Nab Water Lane and Cold Edge Road for the Eastern Access Route only. Habitats within these areas have yet to be surveyed. However, the overlap is primarily with roadside verges and it is therefore considered less likely that the designated habitat features would occur.</p> <p>Habitats within the remainder of the Western Access Route, Eastern Access Route and Bradford West Cable Corridor will be subject to further survey in 2026 and are described in Table 8-10.</p>	

⁴⁴ Total areas include the buffer distances currently being included to allow for design refinement of the proposed Access Routes and Bradford West Cable Corridor.

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<p>Consideration of the South Pennine Moors (Phase 2) SPA and its features are included as part of the assessment in Chapter 9: Ornithology.</p>	
<p>Designated sites – national</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024) and Appendix 8-3: Habitat Baseline Report (2023-2025))</p> <p>Includes UK Habitat Classification and NVC</p>	<p>The desk study identified one SSSI within 5km of the Turbine Area, the South Pennine Moors SSSI. No other SSSIs or NNRs were identified within 2km of the Access Routes and Bradford West Cable Corridor designated for ecological purposes.</p> <p>The South Pennine Moors SSSI shares a common boundary with the South Pennine Moors SAC and includes many of the same habitats as designated features, including blanket bog, dry and wet heaths, oak woodland, acidic fen and acid grassland.</p> <p>As described for South Pennine Moors SAC above, the Turbine Area includes extensive areas of blanket bog and dry and wet heath. Acid grassland habitats, including areas of abundant <i>Descampsia flexuosa</i> and <i>Molina Caerulea</i> are also present.</p> <p>The Access Routes and Bradford West Cable Corridor overlap with SSSI as described for the South Pennine Moors SAC.</p> <p>Crimsworth Dean SSSI is within 5km of the Turbine Area. However, it is designated for geology and does not include any monitored ecological features.</p>	<p>National/National</p> <p>The Turbine Area includes extensive areas of designated habitats which are features of the South Pennine Moors SSSI.</p> <p>The Western Access Route also includes areas of designated habitats which are features of the South Pennine Moors SSSI.</p> <p>The Eastern Access Route and Bradford West Cable Corridor partially overlap with the boundaries of the South Pennine Moors SSSI.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<p>Ornithological features of the SSSI are considered in Chapter 9: Ornithology.</p>	<p>Further survey in 2026 will be undertaken to confirm the extent of designated features.</p>
<p>Designated sites – local statutory</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p>	<p>The desk study identified no statutory local sites within 2km of the Turbine Area or within 1km of the Access Routes and Bradford West Cable Corridor.</p>	<p>n/a</p>
<p>Designated sites – local non-statutory</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p>	<p>The desk study identified ten non-statutory designated sites within 2km of the Turbine Area, with four occurring within 1km (the closest being Hardcastle Craggs which is 220m from the Turbine Area). Full details are provided in Table 3.1 and Figure A1-2 in Appendix 8-1: Desk Study Report.</p> <p>There are 10 non-statutory sites of local importance, including two District Wildlife Sites (DWS), and seven Biological Heritage Sites (BHS) within 1km of the Western Access Route with the closest being Wycoller Pastures BHS which is <10m to the west of the Western Access Route and comprises areas of pasture with significant value for grassland fungi.</p> <p>Eight LWS sites were identified within 1km of the Eastern Access Route and Bradford West Cable Corridor, with the</p>	<p>County/County</p> <p>The Turbine Area, Access Routes and Bradford West Cable Corridor are adjacent to or overlap with identified LWSs.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<p>closest being Nan Scar Clough which overlaps with both of these components of the Proposed Development. Nan Scar Clough is designated for its diverse habitats including areas of woodland, acid grassland and dry and wet heath habitats.</p> <p>Full details are provided in Tables 3-15 and 3-25 and Figures A1-7 and A1-13 in Appendix 8-1: Desk Study Report.</p>	
<p>Priority Habitats (including blanket bog, upland heathland, grass moorland, lowland fen, upland flushes, fens and swamps)</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p>	<p>The Priority Habitats Inventory identifies three habitats as potentially occurring within the Turbine Area, with a further ten occurring within 1km. Habitats which are identified as occurring within the Turbine Area include blanket bog, upland heathland and grass moorland all of which have also been confirmed through the habitat surveys described in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024).</p> <p>Other habitats identified as potentially occurring within 250m of the Turbine Area include good quality semi-improved grassland and lowland mixed deciduous woodland within Hardcastle Craggs. All other habitats are >300m away from the Turbine Area.</p> <p>Full details are provided in Table 3-3 and Figure A1-3 in Appendix 8-1: Desk Study Report.</p>	<p>National/National</p> <p>The Turbine Area overlaps with significant areas of Priority Habitats, including blanket bog and upland heathland.</p> <p>These habitats are subject to assessment as designated features of the South Pennine Moors SAC and SSSI.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
		<p>The Western Access Route overlaps with five potential priority habitats as identified through the Priority Habitat Inventory including: Blanket bog, grass moorland, lowland fen, upland heathland and upland flushes, fens and swamps. Habitat surveys to date have confirmed presence of blanket bog and upland heath (as described for South Pennine Moors SAC above).</p> <p>The Eastern Access Route and Bradford West Cable Corridor overlap with five potential priority habitats, including blanket bog, grass moorland, upland heath, fragmented heath and deciduous woodland.</p> <p>The Priority Habitats Inventory provides an overview of where priority habitats are expected to occur and is based on a combination of field survey and remote sensing. Habitats have been classified partially within the Turbine Area and within access routes following a programme of field surveys and analysis. Further surveys of the Access Routes and Bradford West Cable Corridor will be completed to confirm the presence/absence and extent of any priority habitats as described in Table 8-10.</p>	
Ancient Woodland and Veteran Trees	Desk study (Appendix 8-	There is no Ancient Woodland within the Turbine Area. The closest Ancient Woodland to the Turbine Area is 350m to the	National/Local

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
	<p>1: Desk Study Report)</p>	<p>south. There is also one veteran and one notable tree identified within the Turbine Area.</p> <p>There is no ancient woodland identified within the Access Routes or Bradford West Cable Corridor. There are three notable trees within 0.5km of the Western Access Route and one within 0.5km of the Eastern Access Route/Bradford West Cable Corridor.</p> <p>Full details are provided in Appendix 8-1: Desk Study Report.</p>	<p>There is no Ancient Woodland within the Turbine Area and only one Veteran tree identified. It is therefore considered that this feature is only of Local importance taking into account the nature of the habitats present.</p>
<p>Priority Habitats (Rivers)</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024))</p> <p>Includes UK Habitat Classification</p>	<p>There are no Statutory Main Rivers (as identified by the Environment Agency’s Main River Map) within 500m of the Turbine Area. However, the Turbine Area supports a large number of small watercourses identified using OS mapping. These watercourses comprise numerous springs and headwaters, many of which flow into the reservoirs adjacent/surrounding the PEIR Boundary or are captured by drainage infrastructure and channels.</p> <p>Named watercourses within the Turbine Area included Black Dike, Walshaw Dike, Old Dike, Shaw Dike and Hole Sike.</p> <p>Figure A1-5 in Appendix 8-1: Desk Study Report shows the distribution and extent of watercourses within the Turbine Area.</p>	<p>Regional/Regional</p> <p>There are no Statutory Main Rivers present within 500m of the Turbine Area. However, there are a significant number of minor streams, flushes and springs.</p> <p>Given the importance of watercourses to the hydrological conditions that support the habitats present within the</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Geographic Importance (Legislation/Proposed Development)
	and MoRPH Surveys	<p>The Western Access Route crosses the River Laneshaw, upstream of its mapped Statutory Main River extent. The route crosses multiple watercourses, including, tributaries of Wycoller Beck, water courses present along Nan Hole Clough and man-made drainage channels including Low Black Dikes.</p> <p>The Eastern Access Route and Bradford West Cable Corridor does not cross any Statutory Main Rivers. The routes overlap and cross multiple ordinary watercourses including Denholme Beck and Hard Nese Clough and Nan Scar Beck, along with other unnamed streams and drainage channels.</p>	Turbine Area, these are assessed as being of Regional importance in the context of the Proposed Development as a whole.

Table 8-10: Summary of Desk Study and Baseline Survey Results – Protected and Notable Species/Species Groups

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
Bats	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey</p>	No confirmed roost locations have been identified within the Turbine Area through surveys completed between 2024 and 2025. Suitable roosting features are limited to buildings, bridges and also culverts associated with the reservoirs adjacent/surrounding the PEIR Boundary. Woodland is largely absent within the Turbine Area, restricted to one small parcel of plantation woodland, which is not considered suitable for roosting bats.	<p>International/Regional</p> <p>Analysis of 2025 data identified the assemblage of bats within the Turbine Area as being of Regional importance (Appendix</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
	<p>(Appendix 8-2 and Appendix 8-4: Bat Survey Report 2025)</p>	<p>Activity surveys completed in 2023 identified a minimum of nine different species (including <i>Myotis sp.</i> and <i>Nyctalus sp.</i> species which were not identifiable to individual species level). Common pipistrelle <i>Pipistrellus pipistrellus</i> was the most commonly recorded species, accounting for 88.55% of all recorded activity.</p> <p>Further surveys completed in 2025 included both static detection and transect surveys. Static detection surveys recorded a minimum of seven species, comprising common pipistrelle, <i>Myotis spp</i>, noctule, Nathusius’ pipistrelle, Leisler’s, brown long-eared bat and soprano pipistrelle. Common pipistrelle was again the most commonly recorded accounting for 85.42% of all records. Of remaining species recorded, only <i>Myotis sp.</i> (8.19%) noctule <i>Nyctalus noctule</i> (2.96%) and Nathusius’ pipistrelle <i>Pipistrellus nathusii</i> (1.1%) accounted for more than 1% of records.</p> <p>Walkover transects recorded low levels of bat activity, with recordings largely comprising common pipistrelle foraging near to buildings, trees and watercourses/waterbodies.</p> <p>Following Reason and Wray <i>et al</i> (2025) and the approach to classifying the “importance” level of the overall assemblage, the species recorded result in a score that ranges between 13/22 and 19/22. Meaning that the importance of the assemblage</p>	<p>8-4: Bat Survey Report 2025)</p> <p>This level is applied to the Access Routes and Bradford West Cable Corridor on a precautionary basis.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>ranges between Regional and National levels. The higher score assumes that all species of Myotis are present, which is considered to be unlikely given the scarcity of some species in the north of England (i.e. Alcaethoe and Bechstein’s Bat). Desk study results for the Turbine Area only recorded one Myotis species, Dautbenton’s bat, identified <100m from the Turbine Area.</p> <p>Higher levels of activity were recorded around the base of the moorland, within watercourse valleys and alongside the reservoirs. Activity within the higher, more exposed, moorland habitat was notably reduced suggesting that much of the habitat within the Turbine Area is of low suitability for foraging and commuting bats.</p> <p>On a precautionary basis, it has been assumed that the overall assemblage within the Turbine Area has a regional importance level. The results of the surveys are described in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024) and Appendix 8-4: Bat Survey Report 2025.</p> <p>Habitats within the Western Access Route, in particular between the Turbine Area and Watersheddles Reservoir, are broadly similar to those found within the Turbine Area before passing through areas of grassland alongside Lancashire Moor Road. This area is therefore likely to support a similar assemblage of</p>	

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>bats, with watercourse and linear features alongside the roads offering habitat with moderate suitability to support foraging and commuting bats.</p> <p>The Eastern Access Route and Bradford West Cable Corridor cross a range of different habitats, with varying suitability to support bats. Habitats include upland grassland and moorland, woodland, riparian corridors and grassland pasture (in particular in the eastern part of the Bradford West Cable Corridor).</p> <p>Surveys of the access routes and cable corridor to be completed in 2026 will confirm the nature of the habitats present and identify any specific features which may be impacted by activities within these areas.</p>	
Amphibians (including GCN)	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology)</p>	<p>The desk study identified records of common frog and common toad within 2km of the Turbine Area, including records from Walshaw Dean Reservoir. A review of granted European Protected Species licences within 1km of the Turbine Area identified a single GCN licence from 2014, which was located within the Turbine Area.</p> <p>HSI and eDNA surveys were completed from 5 permanent ponds identified within the Turbine Area in June 2024. All ponds were deemed to be either of “average” or “below average” suitability for GCN.</p>	<p>International/County</p> <p>GCN have been confirmed within the Turbine Area.</p> <p>Habitats and environmental conditions are not optimal for GCN, with acidic soils and</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
	<p>Baseline (2023-2024)</p>	<p>The eDNA surveys returned one positive and two indeterminate results from ponds 2, 3 and 4 which are located in the western part of the Turbine Area and shown on Figure A1-4, Appendix 8-2: Terrestrial Ecology Baseline (2023-2024). Both common frog and common toad have been recorded within the Turbine Area during other surveys and are likely to be widespread.</p> <p>The updated desk study has identified up to 22 additional permanent ponds within 500m of the Turbine Area which will be subject to assessment and survey in 2026 and are shown on Figure A1-4, Appendix 8-4: Bat Survey Report 2025.</p> <p>Terrestrial and aquatic habitats within the Turbine Area are suitable to support an assemblage of amphibian species and include opportunities for refugia and hibernacula, such as rubble piles and fallen walls and wide distribution of watercourses and waterbodies.</p> <p>Updated surveys are planned within the Turbine Area in 2026, with surveys planned of suitable waterbodies occurring within 500m of the Proposed Development.</p> <p>The desk study has identified twelve additional ponds within 500m of the Western Access Route and up to 61 within 500m of the Eastern Access Route and Bradford West Cable Corridor.</p>	<p>upland habitats dominant.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>Where access is possible, surveys of the Access Routes and the Bradford West Cable Corridor, to be completed in 2026, will confirm the nature of the habitats present, with surveys to be completed where practicable.</p>	
Reptiles	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024))</p>	<p>The data search returned five records of common lizard <i>Zootoca vivipara</i> within 2km of the Turbine Area in the past 10 years. The closest and most recent record was located 0.40km south of the Turbine Area in 2021. No other reptile species have been recorded.</p> <p>During the walkover survey, five areas with high suitability for reptiles were identified and are shown on Figure A1-7 in Appendix 8-2: Terrestrial Ecology Baseline (2023-2024) in addition to debris piles and fallen stone walls, which are present across the Turbine Area and offer suitable locations for refugia for a range of reptile species.</p> <p>Common lizard <i>Zootoca vivipara</i> were first observed by surveyors during ornithology surveys, regularly seen on existing access tracks.</p> <p>Presence/absence surveys completed in 2024 also recorded common lizard with a peak count of four recorded under refugia.</p>	<p>National/Local</p> <p>Suitable reptile habitat is widespread across the Turbine Area. Survey results suggest the presence of a low density of reptiles.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>Sloughed lizard skin was also recorded. No other species were recorded.</p> <p>Given the nature and scale of the Turbine Area, other reptile species may be present. However, the widespread availability of suitable refugia may limit the effectiveness of artificial refugia surveys.</p> <p>Surveys of the Access Routes and Bradford West Cable Corridor to be completed in 2026 will confirm the nature of the habitats present and identify any specific features which may be suitable for reptiles and impacted by the Proposed Development. Additional survey effort would be completed where necessary.</p>	
Otter	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology)</p>	<p>The desk study returned one record of otter in the past 10 years. The nearest records being 0.28km south of the Turbine Area.</p> <p>Otter have been confirmed as being present within the Turbine Area. Regular watercourse, ditches and large reservoirs at its centre offer suitable habitat for foraging, commuting and breeding.</p> <p>A single well used otter holt was recorded with spraint in a cave at the edge of the Walshaw Dean Lower Reservoir, in addition to two couches on different watercourses.</p>	<p>International/County</p> <p>Suitable otter habitat is widespread across the Turbine Area. Survey results suggest the presence of a low density of otter.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
	<p>Baseline (2023-2024)</p>	<p>The desk study identified no records of otter within the Access Routes or Bradford West Cable Corridor. However, given the nature of the habitats present (including multiple watercourse), it is likely that otter are present.</p> <p>Surveys of the Access Routes and Bradford West Cable Corridor to be completed in 2026 will confirm the nature of the habitats present and identify any specific features which may be suitable for otter and impacted by the Proposed Development. Additional survey effort would be completed, where necessary.</p>	
<p>Water Vole</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024))</p>	<p>The desk study returned one record of water vole in the past 10 years. The nearest records being 0.71km south of the Turbine Area.</p> <p>Suitable habitat for water voles was recorded throughout the Turbine Area including numerous watercourses, ditches and drains. A single potential burrow was recorded adjacent the Walshaw Dean Lower Reservoir; no other evidence of water voles was recorded.</p> <p>Evidence of American mink, as recorded along the Greave Clough and connected watercourses, may limit the potential for water vole to occur in the western part of the Turbine Area. Further surveys of watercourses will be undertaken in 2026 to</p>	<p>National/Local</p> <p>Water vole have not been confirmed as present within the Turbine Area with no confirmed field signs recorded. It is therefore likely that if present they occur at a low density.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		confirm presence/absence where construction is proposed within and adjacent to watercourses. Additional survey effort would be completed where necessary.	
Fungi	<p>Desk study (Appendix 8-1: Desk Study Report)</p> <p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024))</p>	<p>CHEGD⁴⁵ species were identified within purple moor grassland and rush pasture.</p> <p>A minimum of 45 CHEGD species were recorded in total across Transects 1-10 within the Turbine Area, of which 23 species were true waxcaps. According to the CHEGD assessment system this equates to an exceptionally rich site for waxcaps, indicating these are long established grasslands.</p> <p>The conservation status for individual CHEGD species is undefined for the vast majority of species. Of those identified within the assemblage only two have been categorised on the International Union for Conservation of Nature (IUCN):</p> <ul style="list-style-type: none"> • Porpolomopsis calyptriformis – IUCN - Vulnerable; and • Gloioxanthomyces vitellinus – IUCN - Endangered. 	<p>International/ International</p> <p>The UK has been shown to have more valuable waxcap grasslands than any other European country⁴⁶.</p> <p>Based on the assessment criteria referenced by Natural England (2003)⁴⁷ (Rald (1985)⁴⁸ Versterholt <i>et al</i> (1999)⁴⁹). The Turbine Area potentially supports a CHEGD fungi</p>

⁴⁵ CHEGD stands for the key fungi groups; spindles, club and coral fungi (Clavarioids), the waxcaps Hygrocybe genus (although recent DNA investigations have split up the genus), pinkgills (Entoloma), earthtongues (Geoglossum and relatives), and crazed caps (Dermoloma and relatives).

⁴⁶ <https://cieem.net/grasslands-and-chegd-fungi/>.

⁴⁷ English Nature (2003). Waxcap grasslands – an assessment of English Sites. English Nature Research Reports Number 555.

⁴⁸ Rald, E., (1985). Vokshatte som indikatorarter for mykologisk værdifuldeoverdrevslokalteter. Svampe, 11, pp. 1-9.

⁴⁹ Vesterholt, J., Boertmann, D. & Tranberg, H., 1999. 1998 – et usaedvanliggodt ar for overdrevssvampe. Svampe, 40, pp. 36-44.

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>The desk study identified nine LWS within 2km of the Turbine Area, which include either individual fungi or fungi/CHEGD assemblages as part of their designated features. This indicates the importance of the wider area to fungi, with the local environmental conditions conducive to the development of diverse CHEGD assemblages.</p> <p>LWSs identified include; New High Laithe Farm, Hollin Hall, Crimsworth Dean Pastures, Higher Crimsworth Meadows, Clough Hole Pasture, Everill Shaw, Willcroft Farm and Dean Head Reservoir Dams.</p> <p>Details of the identified sites are provided in Table 3-2 in Appendix 8-1: Desk Study Report.</p> <p>A single LWS with Fungi as designated features were also identified within 1km of the Western Access Route; Wycoller Pastures BHS which is 0.09km from the boundary of the Western Access Route.</p>	<p>assemblage of international importance.</p>
<p>Invertebrates (including White clawed crayfish)</p>	<p>Desk study (Appendix 8-1: Desk Study Report)</p>	<p>The data search returned 10 records of at least 12 notable invertebrate species, within 2km of the Turbine Area in the past 10 years. The nearest record was for a green hairstreak <i>Callophrys rubi</i> located within the Turbine Area (south-east boundary) in 2020.</p>	<p>National/County</p> <p>The extent and diversity of habitats within the Turbine Area have the potential to support a</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
	<p>Field survey (Appendix 8-2: Terrestrial Ecology Baseline (2023-2024))</p>	<p>During surveys completed in 2024, 139 different invertebrates were recorded. The most widespread species recorded within the survey was <i>Conomelus anceps</i> (a species of planthopper) which was recorded in all sample locations followed by <i>Nemastoma bimaculatum</i> (a species of harvestman) and <i>Pachygnatha clercki</i> (a species of orb weaver spider), which were both recorded in six survey locations.</p> <p><i>Stictonectes Lepidus</i> (a freshwater beetle) was the only invertebrate recorded which is considered ‘Near Threatened’ in the IUCN Red List 27. However, 53 other invertebrate species are also included in the Red List but are of ‘Least Concern’. Two other nationally notable species were recorded during the surveys: <i>Altica longicollis</i> (a flea beetle) and <i>Aquarius najas</i> (a river skater). Additional survey results and details are provided in Appendix 8.2 – Terrestrial Ecology Report.</p> <p>Further invertebrate surveys were undertaken in 2025 and survey data will be provided as part of the ES.</p> <p>A habitat suitability survey for white-clawed crayfish will be undertaken in 2026 to confirm whether watercourses within the Turbine Area require further surveys. No records of white-clawed crayfish have been returned through the desk study.</p>	<p>diverse assemblage of invertebrates which is likely to be of county importance.</p>

Ecological Feature	Data Source /Survey Type	Summary of Result	Importance (Legislation/Proposed Development)
		<p>Baseline conditions for white-clawed crayfish specifically will be provided as part of the ES.</p> <p>Habitat surveys of the Access Routes and Bradford West Cable Corridor in 2026 will include identification of potentially valuable habitat for invertebrates.</p>	
Fish	Desk study (Appendix 8-1: Desk Study Report)	<p>The data search returned six records for brown/sea trout <i>Salmo trutta</i> within 2km of the Turbine Area in the past 10 years. The closest and most recent record was at the Alcomden stream, which is downstream of the Walshaw Dean Reservoirs.</p> <p>A habitat suitability survey for fish will be undertaken in 2026 to confirm whether watercourses within the Turbine Area are suitable for migratory fish such as brown/sea trout. However, the presence of the Walshaw Dean Reservoirs may act as a barrier to further movement.</p> <p>Habitat surveys of the Access Routes and Bradford West Cable Corridor in 2026 will include identification of potentially valuable habitat for fish.</p> <p>Baseline conditions for fish will be updated as part of the ES.</p>	<p>National/County</p> <p>The wider landscape features a network of headwaters and small rivers alongside heavily modified drainage channels and conduits which transport water to and from reservoirs.</p> <p>On a precautionary basis, it is considered that these habitats could support fish populations of County Importance.</p>

Further Data Collection

- 8.5.10 Further surveys are required to inform the assessments that will be presented in the ES. This includes baseline data collection activities/surveys to address areas not currently covered by surveys, surveys to update and augment information collected early in the survey programme and additional survey effort, required to ground-truth modelled data. **Table 8-11** provides a summary of further surveys currently identified. All surveys will follow good practice guidance as described for surveys already completed in **Table 8-7**.

Table 8-11: Summary of Planned Further Surveys

Location/ Component of the Proposed Development	Survey Type/Data Collection Activity	Description	Planned Timing
Remaining sections of the Western Access Route, Eastern Access Route and Bradford West Cable Corridor	Extended UK Habitat Classification Survey	<p>An Extended UK Habitat Classification Survey (UKHab) to be completed of all accessible sections of the Access Routes (except for the section of the Western Access Route that has been surveyed) and the Bradford West Cable Corridor.</p> <p>Surveys will identify habitats to UKHab Level 4 (where practicable). Where potentially sensitive habitats are identified, further botanical surveys may be required following NVC methodology. Condition assessments following Statutory Metric approaches will also be completed.</p> <p>The survey will be “extended” to include an assessment of habitat suitability to support protected/notable species taking into consideration direct observation, field signs and habitat features. This will include the completion of HSI for GCN of any waterbodies, identification of any badger setts and preliminary roost assessments of trees/buildings which may be impacted.</p>	Spring - Summer 2026
Turbine Area, Access Routes and Bradford West Cable Corridor	NVC Survey and Condition Assessment	Further NVC surveys and blanket bog condition assessment will be completed within the Turbine Area to ensure sampling in all areas of predicted impacts. This information will be used to ground-truth predicted habitats and to refine existing habitat mapping.	May – August 2026

Location/ Component of the Proposed Development	Survey Type/Data Collection Activity	Description	Planned Timing
		Where the Access Routes and Bradford West Cable Corridor cross areas of the SAC and where sensitive habitats are identified, NVC surveys will be completed.	
Turbine Area	Bat activity surveys	<p>As the proposed turbine layout has changed since initial surveys between 2023-2025 were undertaken, requirements for repeat or refined bat activity surveys will be confirmed following consultation with Natural England.</p> <p>Monitoring during Spring 2026 will be prioritised following delay and limitation to deployment in 2025.</p>	May 2026 – October 2026
Turbine Area, Access Routes and Bradford West Cable Corridor	Bat emergence surveys	<p>As the proposed turbine layout has changed since initial surveys were undertaken between 2023 and 2025, requirements for repeat or refined bat emergence surveys will be confirmed following consultation with Natural England. These surveys will focus on potential roost features (buildings, built structures and trees) within 200m + rotor radius of proposed turbine locations.</p> <p>Following the Extended UKHab survey of the Access Routes and Bradford West Cable Corridor, the scope of any bat emergence or roost surveys will be identified and completed.</p>	May – October 2026
Turbine Area, Access	GCN – eDNA Surveys and	As the proposed turbine layout has changed since initial surveys in 2024, the requirement for repeat and additional GCN surveys has been	April – June 2026

Location/ Component of the Proposed Development	Survey Type/Data Collection Activity	Description	Planned Timing
Routes and Bradford West Cable Corridor	Population Surveys	<p>identified. eDNA and potentially population estimate surveys will be required in permanent ponds within 250-500m of proposed construction activity within the Proposed Development.</p> <p>Following the Extended UKHab survey of the Access Routes and Bradford West Cable Corridor, the scope of eDNA and/or population surveys will be identified and completed.</p>	
Access Routes and Bradford West Cable Corridor	Badger survey	<p>Following the Extended UKHab survey of the Access Routes and Bradford West Cable Corridor, the scope of any additional badger surveys will be identified and completed. Surveys will focus on any active or potential badger setts identified within 30m of proposed construction areas (following recommended guidance – Badger Trust 2023)⁵⁰ to confirm requirements for potential licencing.</p>	March 2026 onwards
Turbine Area, Access Routes and Bradford West Cable Corridor	Otter and water vole	<p>As the proposed turbine layout has changed since initial surveys in 2024, requirements for targeted surveys for otter and water vole will be undertaken within the Turbine Area. Surveys will focus on watercourses where crossing points are proposed or where construction is proposed within 50m of a watercourse.</p>	March 2026 onwards

⁵⁰ Badger Trust (2023). Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England)

Location/ Component of the Proposed Development	Survey Type/Data Collection Activity	Description	Planned Timing
		<p>Following the Extended UKHab survey of the Access Routes and Bradford West Cable Corridor, the scope of any additional otter and water vole surveys will be identified and completed.</p>	
<p>Turbine Area, Access Routes and Bradford West Cable Corridor</p>	<p>Fish and white-clawed crayfish</p>	<p>Surveys to assess watercourse suitability to support white-clawed crayfish and/or assemblages of fish will be undertaken.</p> <p>Within the Turbine Area, surveys will focus on watercourses where crossing points are proposed or where construction is proposed within 50m of a watercourse.</p> <p>Following the Extended UKHab survey of the Access Routes and Bradford West Cable Corridor, the scope of any additional surveys will be identified and completed.</p>	<p>March 2026 onwards</p>
<p>Turbine Area, Access Routes and Bradford West Cable Corridor</p>	<p>Invertebrate Surveys</p>	<p>Additional surveys were completed in August/September 2025 following provisional surveys in 2024. Data collected is currently being analysed alongside a review of desk study information.</p> <p>Requirements for any additional surveys in 2026 will be considered and completed as necessary if high value habitats for invertebrates are identified as being at risk of impacts from the Proposed Development.</p>	<p>May – September 2026 (as required)</p>

Future Biodiversity Conditions

Collection of Predicted Data

8.5.11 Predicted data for the future ecological baseline without the Proposed Development has been informed through cited guidance, literature, and professional judgement to inform conclusions on future ecological population predictions, climate conditions, habitat succession, land management and land use changes. A summary of the documents used to inform the future ecological baseline are provided below:

- Walshaw Moor Estate Catchment Restoration Plan (WMECRP)⁵¹;
- UK Climate Projections (UKCP18); and
- Climate Change Adaptation Manual (NE751)⁵².

Future Baseline

Continuation of Existing Land Management

8.5.12 The Turbine Area and wider area (including sections of the Access Routes and Bradford West Cable Corridor closest to the Turbine Area) is dominated by upland habitats associated with peat soil with extensive areas of blanket bog and dry and wet heathland. The landscape has been subject to significant levels of historic human management with areas of the Walshaw Moor Estate managed for grouse shooting and creation of water resource infrastructure, including reservoirs and water drainage and collection conduits. Historic management of bog and heath habitats through increased drainage and burning have been ceased under the Walshaw Moor Catchment Restoration Plan. Restoration focused efforts include the re-wetting of bog habitat through blocking and damming of ditches and drains and the cessation of rotational burning to be replaced with cutting of heather.

8.5.13 In the absence of the Proposed Development, it is expected that habitats within the Turbine Area would continue to be managed in a similar way, including targeted management of habitats to encourage red grouse, control heather beetle impacts and habitat enhancement management to meet the objectives of the WMECRP, which is designed to ensure that the objectives of the South Pennine Moors SAC and South Pennine Moors Phase 2 SPA are being met.

⁵¹ Davis and Bowring (2017). Walshaw Moor Estate Catchment Restoration Plan - 2017-2042.

⁵² Natural England and RSPB, (2019). Climate Change Adaptation Manual - Evidence to support nature conservation in a changing climate, 2nd Edition. Natural England, York, UK.

8.5.14 In the short and medium-term, species populations and distributions will continue to fluctuate in response to management within the Walshaw Moor Estate and in response to variable environmental conditions, such as seasonal weather conditions. The WMECRP has seen works carried out to improve habitats including an extensive programme of drain blocking and check dam construction during 2014 with further management completed between 2016 and 2018. However, further restoration work is not currently planned. Assuming the continued management and presence of the supporting habitats, it is reasonable to conclude that the current baseline would not significantly alter.

Influence of Climate Change on the Future Baseline

8.5.15 In the longer term, climate change may impact the resilience of certain habitats and species. As identified in the Climate Change Adaptation Manual⁵² Blanket bog especially has the potential to be impacted by long-term changes to weather conditions with reduced rainfall and increased mean temperatures likely to reduce the amount of surface water available and lead to higher rates of evapotranspiration such that climatic conditions are no longer suitable for blanket bog within much of the UK as identified through climatic modelling⁵³.

8.5.16 Plant species which are more drought resilient (such as common heather *Calluna vulgaris* or purple moor grass *Molina caerulea*) may become more dominant which may see transition of habitats away from wet mire communities towards dry heathland or grassland habitats. Additionally, more extreme rainfall events which may occur during summer and winter may also lead to an increase in the erosion and loss of peat, in particular in degraded habitats.

8.5.17 Changes in temperature as a result of climate change are predicted to drive changes in plant community composition and structure within upland heath habitats resulting in increased cover of grasses with habitats becoming increasingly similar to lowland heath habitat types. As with blanket bog, wet upland heath will be susceptible to reductions in rainfall frequency and amount, becoming increasingly dry which is likely to result in habitat degradation and succession to dry heathland, scrub or grassland habitats (subject to ongoing management).

8.5.18 Other habitats present within the Proposed Development which could be susceptible to climate change include purple moor grass and rush pasture, rivers and streams and upland flushes, fens and swamps. All of these habitats are reliant on surface and sub-surface hydrological conditions, which could be significantly

⁵³ Ritson, J. P., Lees, K. J., Hill, J., Gallego-Sala, A., & Bebber, D. P. (2025). Climate change impacts on blanket peatland in Great Britain. *Journal of Applied Ecology*, 62, 701–714. <https://doi.org/10.1111/1365-2664.14864>.

altered by changes in the frequency and amount of rainfall predicted through climate change modelling.

- 8.5.19 Changes and degradation of habitats as a result of climate change will have direct impacts on the distribution and abundance of protected and notable species present, in particular any species which occupy specific niches within the mosaic of upland and peatland habitats present.
- 8.5.20 CHEGD fungi, which are a feature of the grassland habitats present within the Turbine Area may benefit from warmer winter temperatures, extending the period of fruiting months. However, increased risk of drought conditions during summer may result in widespread loss of fungi ahead of typical fruiting seasons. Heavier rainfall events may also result in increased nitrogen deposition within soils, reducing the suitability of the habitats for CHEGD fungi overall.
- 8.5.21 GCN are typically lowland species and not found in upland habitats. Heightened temperatures and changes to habitats at higher altitudes as a result of climate change could increase the availability of suitable habitat for this species and facilitate a longer breeding season for GCN.
- 8.5.22 Conversely, reduction in rainfall frequency and quantity could result in more regular drought conditions and temporary loss/drying of breeding ponds. In addition, extreme weather/rainfall can result in increased surface run off and eutrophication of ponds resulting in a degradation of breeding habitat. Overall increases in temperature may create suitable conditions for diseases including the chytrid fungus *Batrachochytrium dendrobatidis*.
- 8.5.23 Other protected and notable species including bats, reptiles and invertebrates may experience similar impacts as a result of climate change. Increases in temperature and warmer transitional seasons may increase the amount of time that habitat is “available” in upland locations. However, the impacts of climate change (reduced summer rainfall, increased temperature, increase in extreme conditions) may result in habitat degradation and loss such that what is available is of lower quality and less suitable for these species.
- 8.5.24 Within this preliminary assessment the current conditions have been used as the basis of assessment given the levels of uncertainty and timescales. However, where appropriate, the future baseline conditions will be considered for assessment within the ES, in particular when considering impacts related to operational and maintenance and decommissioning phases will be discussed with Natural England to agree an appropriate method.

8.6 Environmental Measures

- 8.6.1 This section describes details of the biodiversity environmental measures which have been included within the design of the Proposed Development. These measures are an inherent part of the design of the Proposed Development and have been included to benefit biodiversity and achieve positive effects where possible, as well as avoid, reduce, mitigate or compensate for the likely significant adverse effects of the Proposed Development.
- 8.6.2 The mitigation hierarchy will be applied to biodiversity (CIEEM 2018) to ensure that the design of the Proposed Development first seeks to avoid 'significant effects', to minimise and mitigate where it is unavoidable, and, as a last resort, to compensate for residual effects that remain after avoidance and mitigation measures are implemented. The avoidance of significant effects has and is being considered through the design process and potential mitigation measures associated with conservation notable and legally protected flora and fauna will also be actively considered and incorporated as appropriate. These measures include determining the extent and distribution of suitable habitats required within the Proposed Development to account for the likely effects on legally protected and other conservation notable species, the types of habitats that they may require and how these can be incorporated within the design. As more information becomes available from the ongoing field survey programme and as the development design and construction phase plans are refined/develop, mitigation plans/measures will evolve.
- 8.6.3 Specific environmental measures relevant to biodiversity will be identified and will be considered as part of the assessments (i.e. the assessments of likely significant effects have been undertaken with the inclusion of the environmental measures, as these measures will form part of the Proposed Development). At this stage of the project, the environmental measures that will be implemented and included within the Proposed Development are set out below.

Biodiversity Net Gain

- 8.6.4 Since the start of February 2024, obligations for BNG have been applied to most planning permissions applied for and consented under the Town and Country Planning Act 1990. Requirements for NSIPs are scheduled to become mandatory from May 2026. It is anticipated that the requirements for NSIPs will mirror that of planning applications under the Town and Country Planning Act regime, with a need to deliver a minimum of 10% BNG, with supporting evidence provided at the DCO application stage through a biodiversity net gain plan.
- 8.6.5 BNG requirements relating to Irreplaceable Habitats are particularly relevant to the Turbine Area due to the large areas of blanket bog which are present. Bespoke

agreements and strategies are required to account for any losses to such habitats and will need to be agreed in principle with relevant consultees (i.e. Natural England).

- 8.6.6 As the Proposed Development is a NSIP and the DCO Application is scheduled to be submitted in 2026, the approach to BNG will be applied and considered alongside the EIA and HRA processes. This will include the use of the statutory biodiversity metric to quantify the proposed gains and will be supported by a biodiversity net gain plan. Given the scale and location of the Proposed Development, a draft Habitat Management and Monitoring Plan (HMMP) will also be submitted alongside the plan as part of the DCO Application.
- 8.6.7 Delivery of BNG will consider limitations and rules relating to designated sites, it will consider the Walshaw Moor Catchment Restoration Plan, any mitigation with respect to protected species and the application of “additionality” to calculations. Where necessary, offsite gains may be required to ensure overall delivery of a minimum 10% net gain for biodiversity.

Habitat Mitigation and Compensation

- 8.6.8 Given the sensitive nature of the habitats and species present within the Turbine Area in particular, a comprehensive mitigation and compensatory approach is required. This is expected to include a combination of onsite and offsite approaches which will seek to enhance retained habitats, increasing their ecological value and resilience and compensate for habitat losses through creation and enhancement.
- 8.6.9 An outline Habitat Mitigation and Compensation Strategy will be developed and submitted as part of the ES.
- 8.6.10 Potential compensation land is also being considered. Further details of this will be provided as part of the ES.

Phase-specific Measures

Construction

- 8.6.11 The construction of the Proposed Development will be required to comply with relevant legislation, standards and guidance, including:

- Environmental Protection Act (1990)⁵⁴;

⁵⁴ Environmental Protection Act (1990). Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [Accessed November 2025].

- The Environmental Permitting Regulations (England and Wales) (2016)⁵⁵;
- The Environmental Noise (England) Regulations (2006)⁵⁶; and
- The Air Quality Standards Regulations (2010)⁵⁷.

8.6.12 The environmental measures include the objectives of management plans to be adhered to during the construction of the Proposed Development; or avoid or reduce adverse effects, such as the use of the following plans:

- Construction Environmental Management Plan (CEMP);
- Peat Management Plan (PMP);
- Precautionary Working Method Statement (PWMS); and
- Construction Traffic Management Plan (CTMP).

8.6.13 Measures will be described in an outline Construction Environmental Management Plan (oCEMP) (**Appendix 4-2**) to be submitted as part of the DCO Application. This will be based upon standards set out within the Biodiversity – code of practice for planning and development (British Standard 42020:2013).

8.6.14 Examples of the environmental measures which will be included in the CEMP include:

- Measures to avoid/minimise the effects of disturbance from noise and vibration, including:
 - Use of noise and visual barriers around working areas;
 - Use of working hours to ensure construction activity is limited to set times of day (i.e. no nocturnal working and avoiding dawn/dusk).
- Measures to avoid/minimise the air quality pollutants and dust deposition, including:

⁵⁵ The Environmental Permitting Regulations (England and Wales) (2016). Available at: <https://www.legislation.gov.uk/ukxi/2016/1154/contents> [Accessed November 2025].

⁵⁶ The Environmental Noise (England) Regulations (2006). Available at: <https://www.legislation.gov.uk/ukxi/2006/2238/contents>. [Accessed November 2025].

⁵⁷ The Air Quality Standards Regulations (2010). Available at: <https://www.legislation.gov.uk/ukxi/2010/1001/contents>. [Accessed November 2025].

- Traffic management to minimise dust as a result of vehicle movements including speed control, route management and dust suppression (i.e. wetting of access routes);
- Management of construction areas to suppress dust; and
- Management of traffic to minimise number of vehicle movements through sensitive habitats.
- Measures to avoid/minimise pollution, including:
 - Use of best practice approaches to manage use of materials and construction machinery onsite;
 - Surface water management plans for construction areas to prevent pollution incidents; and
 - Deployment and use of spill kits and fuelling areas/pads to avoid contamination of habitats.
- Measures to avoid/minimise direct impacts on ecological features, including:
 - Pre-commencement surveys to confirm the ongoing presence/absence of protected and notable species;
 - Identification of 'biodiversity protection zones' and areas adjacent to specific features, such as watercourse, habitats and identified resting places for protected species;
 - The location and timing of sensitive works to avoid harm to ecological features (such as timing of habitat clearance to avoid hibernation periods for amphibians and reptiles);
 - The times during construction when specialists are required to be present to oversee works (for example in areas where risk of GCN occurring necessitate presence of licenced Ecological Clerk of Works (ECoW));
 - A sensitive lighting strategy will be employed to avoid unnecessary light pollution and avoid/minimise impacts of lighting on nocturnal species such as bats and otter;
 - Responsible persons and lines of communications;
 - Defining the role and responsibilities of an ECoW; and
 - Use of protective barriers and warning signs to avoid and prevent harm to biodiversity.

- 8.6.15 A finalised version of the CEMP will then be prepared following the grant of development consent and prior to commencement of works onsite.
- 8.6.1 Where necessary, protected species licencing may be applicable (for example for GCN or bats). Consideration for requirements will be identified through updated and further baseline survey being completed in 2026, assessment and confirmed as part of the DCO Application. Appropriate pre-construction surveys will be proposed and the full approach to be discussed with relevant consultees.

Operation and Maintenance

- 8.6.2 Good practice measures described in relation to construction methods will also be adopted during operational and maintenance activities, as will be detailed within an outline Landscape Environmental Management Plan (oLEMP) and an outline Operation and Maintenance Environmental Management Plan (oOEMP), with final versions prepared in accordance with these outlines following the grant of the DCO and prior to commencement of works onsite.
- 8.6.3 To mitigate and compensate for the loss of habitats areas of habitat enhancement or restoration will be identified. Due to the sensitive nature of the habitats, a bespoke strategy for the delivery of habitat enhancement or restoration will be required and the approach agreed with relevant consultees.
- 8.6.4 Operation and maintenance of the Proposed Development will be required and will include a range of activities and regular attendance at site by engineers using a range of vehicles and machinery. Operations onsite will be completed following the oOEMP which will include measures to avoid impacts on the designated sites, their features and protected species.
- 8.6.5 To further avoid, minimise and/or mitigate impacts on protected species during operation, a PSMMS will be developed which will support the oOEMP. This will include recommended monitoring approaches for key species, including bats, reptiles and amphibians. This will include species specific measures, such as monitoring for collision and barotrauma risk for bats.
- 8.6.6 Any protected species licencing requirements will likely include ongoing monitoring during operation to ensure success of mitigation measures required. Details will be specified in each licence agreement and included as part of the Protected Species Mitigation and Monitoring Strategy to be submitted as part of the DCO Application.
- 8.6.7 A HMMP will be submitted as part of the Biodiversity Net Gain Plan and will require ongoing monitoring throughout the operational life cycle of the Proposed Development.

8.6.8 The environmental measures included within the design of the Proposed Development, during the operational and maintenance phase, include:

- Ongoing management, maintenance, enhancement and monitoring of habitats throughout the operational life cycle of the Proposed Development; and
- Monitoring for other ecological receptors, including bats, reptiles, fungi, plants and amphibians.

8.6.9 The environmental measures include the objectives of management plans to be adhered to during the operational and maintenance phase of the Proposed Development; to achieve positive effects and/or avoid or reduce adverse effects, such as the use of the following plans:

- Landscape and Environmental Management Plan (LEMP);
- Habitat Management and Monitoring Plan (HMMP);
- Operation and Maintenance Environmental Management Plan (OEMP); and
- PSMMS.

Decommissioning

8.6.10 The environmental measures include the objectives of management plans to be adhered to during the decommissioning phase of the Proposed Development; to avoid or reduce adverse effects, such as the use of the following plans:

- Decommissioning Environmental Management Plan (DEMP);
- Peat Management Plan (PMP);
- PWMS; and
- Decommissioning Traffic Management Plan (DTMP).

8.6.11 Measures will be described in an outline Decommissioning Environmental Management Plan (oDEMP) to be submitted as part of the DCO Application. This will be based upon standards set out within the Biodiversity – code of practice for planning and development (British Standard 42020:2013). A finalised version of the oDEMP will then be prepared prior to the commencement of decommissioning works.

8.6.12 It is assumed that the environmental measures required to support decommissioning will be broadly similar in scope to those required for construction and will include measures such as the examples provided below:

- Measures to avoid/minimise disturbance from noise and vibration including:
 - Use of noise and visual barriers around working areas;
 - Use of working hours to ensure activity is limited to set times of day.
- Measures to avoid/minimise the air quality pollutants and dust deposition including:
 - Traffic management to minimise dust as a result of vehicle movements including speed control, route management and dust suppression (i.e. wetting of access routes);
 - Management of decommissioning areas to suppress dust; and
 - Management of traffic to minimise number of vehicle movements through sensitive habitats.
- Measures to avoid/minimise the pollution including:
 - Use of best practice approaches to manage use of materials and machinery onsite;
 - Surface water management plans for decommissioning areas to prevent pollution incidents; and
 - Deployment and use of spill kits and fuelling areas/pads to avoid contamination of habitats.
- Measures to avoid/minimise direct impacts on ecological features, including:
 - Pre-commencement surveys to confirm the ongoing presence/absence of protected and notable species
 - Identification of 'biodiversity protection zones' and areas adjacent to specific features (e.g. confirmed otter holt locations or known GCN breeding ponds);
 - The location and timing of sensitive works to avoid harm to ecological features;
 - The times during decommissioning when specialists are required to be present to oversee works;
 - A sensitive lighting strategy to be employed to avoid unnecessary light pollution and avoid/minimise impacts of lighting on nocturnal species such as bats and otter;

- Responsible persons and lines of communications;
- Defining the role and responsibilities of an ECoW; and
- Use of protective barriers and warning signs to avoid and prevent harm to biodiversity.

8.6.13 Where necessary, protected species licencing may be applicable (for example for great crested newts or bats). Consideration for requirements will be identified through the assessment and confirmed as part of the DCO Application. Appropriate pre-decommissioning surveys will be proposed and the full approach to be discussed with relevant consultees.

8.6.14 There is a clear commitment to habitat reinstatement following decommissioning. Upon cessation of operations, the majority of infrastructure associated with the wind farm would be removed and a comprehensive Habitat Reinstatement Plan would be implemented (as part of the oDEMP). The Habitat Reinstatement Plan would, to the extent that this is possible, aim to return the Proposed Development to a condition that aligns with the ecological and ornithological character and conservation objectives of the surrounding South Pennine Moors Phase 2 SPA and South Pennine Moors SSSI. Where feasible, reinstatement efforts would seek not only to restore but to enhance the quality of habitats to support and potentially improve condition for the key breeding species of the SPA/SSSI. All restoration activities will be developed in consultation with relevant statutory bodies, including Natural England, to ensure they are ecologically appropriate and contribute to long-term conservation.

Assumptions

8.6.15 The Preliminary Assessments presented below are based on **Chapter 4: The Proposed Development**. All calculations and assessments are based on the design of the Proposed Development. Alterations to the design or layout of infrastructure may result in material changes in the assessment of effects, in particular where the area of habitat being impacted would be increased. All assessments are presented as preliminary and will be subject to refinement as part of the ES.

8.6.16 Assessment of effects for hydrology have assumed the functional loss of up to 10m of additional habitat beyond the extent of all infrastructure.

8.7 Potential Effects Scoped Out

8.7.1 This section lists the receptors and/or effects which were scoped out of the biodiversity assessment through the Scoping Report. These were agreed by PINS in their Scoping Opinion. The identified receptors are considered unlikely to occur

or that effects would be of a magnitude such that they would not result in observable changes to the baseline. This includes the evidence that justifies this approach, as shown in **Table 8-12** below.

Table 8-12: Potential Effects Scoped Out

Receptor	Effects Scoped Out	Justification	Phase
Designated Sites – Statutory Local	All effects within Turbine Area, Access Routes or Bradford West Cable Corridor	No LNRs were identified within the relevant search areas.	All Phases
Badger	All effects within Turbine Area	Absent from turbine area on basis of survey and habitat suitability	All Phases
Dormouse	All effects within Turbine Area	Absent from turbine area on basis of survey and habitat suitability	All Phases
All receptors	All effects within cable corridor or access corridor	<p>The current proposals for the cable connection assume a buried cable which will remain in situ for the duration of the operational and maintenance phase. The Access Routes, once established will be subject to low levels of use by operational staff and therefore and not considered likely to result in impacts on ecological receptors.</p> <p>On the assumption that a suitable OEMP is established, it is further assumed that any potential impacts would be fully avoided or mitigated.</p>	Operation and maintenance

8.7.2 Where impacts have likely significant effects and are therefore scoped in, please refer to the scoped in effects section in the Preliminary Environmental Assessment below.

8.8 Preliminary Environmental Assessment

- 8.8.1 This Preliminary Environmental Assessment sets out a receptor-led assessment, considering each of the receptors identified to be taken forward into the assessment (see below) and the associated effects for each phase that have been identified to have the potential to affect them.
- 8.8.2 This Preliminary Environmental Assessment assumes that the environmental measures are in place, but not additional mitigation, compensation or enhancement.

Receptors and Receptor Geographic Importance

- 8.8.3 **Table 8-13** summarises the geographic importance level defined for each receptor as justified in **Section 8.5** and **Tables 8-9** and **8-10**.

Table 8-13: Receptors and Their Geographic Importance

Receptor	Geographic Importance (Legislation and Policy)	Geographic Importance Level (Proposed Development Level)
Designated Sites - South Pennine Moors SAC	International	International
Designated Sites - South Pennine Moors SSSI (assessed alongside South Pennine Moors SAC)	National	National
Designated Sites – Local Non-Statutory	County	County
Priority Habitats (including blanket bog, upland heathland, grass moorland, lowland fen, upland flushes, fens and swamps) (assessed alongside South Pennine Moors SAC and SSSI)	National	National
Ancient Woodland and Veteran Trees	National	Local
Priority Habitats (Rivers)	National	Regional
Bats	International	Regional
Amphibians (including GCN)	International	County
Reptiles	National	Local

Receptor	Geographic Importance (Legislation and Policy)	Geographic Importance Level (Proposed Development Level)
Otter	International	County
Water Vole	National	Local
CHEGD Fungi	International	International
Invertebrate assemblage (including White clawed crayfish)	National	County
Fish assemblage	National	County

Defining Impacts

- 8.8.4 The assessment of effects follows CIEEM EclA Guidelines as outlined above and considers likely significant effects during the construction, operation and maintenance and decommissioning phases.
- 8.8.5 To enable scoping of effects for the various ecological features identified within **Section 8.5**, Zols for each effect have been determined. **Table 8-14** provides a list of each Zol.
- 8.8.6 Ecological features which do not occur within the relevant Zols for likely significant effects are scoped out from the assessment where an impact could not reasonably be expected to occur. In addition, where identified environmental measures reduce the risk of impact such that they are considered not to result in a likely significant effect, such effects (and receptors that they would impact) have been scoped out from further assessment. **Table A8-5-1, Appendix 8-5: Summary of ‘Scoped Out’ Effects/Receptors** provides a summary of the scoped-out effects for each identified ecological feature.

Table 8-14: Defined ZOI for each Likely Significant Effect

Likely Significant Effect	ZOI	Justification for Zoi
Construction Phase Effects		
Direct land take and land use change resulting in both permanent and temporary degradation and/ or loss of habitat (including Irreplaceable Habitats).	Within the Turbine Area and within Access Routes and Bradford West Cable Corridor	Direct land take will only occur within defined construction areas.
Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat.	Distances of up to 10m from construction areas within the Turbine Area, Access Routes and Bradford West Cable Corridor	Examples from wind farm sites in Scotland have resulted in a regulator acceptance of effects being limited to within 10m of excavations (in line with Chapter 10: Hydrogeology, Hydrology, Geology and Peat).
The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support.	Distances of up to 1km from pollution sources ⁵⁸ along hydrologically connected watercourses, lakes and reservoirs	A precautionary distance has been applied using professional judgement taking into account typical Zoi distances for pollution control.

⁵⁸ "Pollution sources" are defined as the location at which a toxic substance is inadvertently introduced into the natural environment.

Dust deposition resulting in degradation and/or loss of habitat.	Up to 250m from construction areas within the Turbine Area, Access Routes and Bradford West Cable Corridor	The Zol is based on best practice guidance produced by the Institute for Air Quality Management (IAQM) ⁵⁹ . 250m is the maximum distance impacts could occur from a construction site entrance. The greatest risk of impact would occur within 50m of construction work.
Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat.	Up to 200m from vehicle routes within the Turbine Area, Access Routes and Bradford West Cable Corridor	The Zol is based on best practice guidance produced by IAQM ⁶⁰ .
Construction activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates;	Up to 50m for species or species groups	This Zol is based on species-specific guidance for the species or species groups identified as occurring or potentially occurring within the Turbine Area. This includes bats, amphibians, reptiles, otter and water vole.
Changes in levels of recreational pressure resulting in degradation and/or loss of habitat	Up to 50m from identified footpaths, construction routes and re-routed/new paths within the Turbine Area, Access Routes and Bradford West Cable Corridor	This Zol is a precautionary distance based on observed impacts of habitat degradation ⁶⁶ .
Changes in levels of recreational pressure resulting in disturbance of fauna resulting	Up to 50m for species or species groups	This Zol is based on species-specific guidance for the species or species groups identified as occurring or

⁵⁹ The Institute of Air Quality Management (IAQM) (2024). Guidance on the assessment of dust from demolition and construction. January 2024 (Version 2.2).

⁶⁰ Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1, Institute of Air Quality Management, London.

in displacement or a reduction in productivity/survival rates		potentially occurring within the Turbine Area. This includes bats, amphibians, reptiles, otter and water vole.
Operation and Maintenance Phase Effects		
Collision with turbine blades or barotrauma resulting in injury or death of bats	Within the Turbine Area only	Collision/barotrauma can only occur where turbines are located.
Changes in levels of recreational pressure resulting in degradation and/or loss of habitat	Up to 50m from identified footpaths and access tracks within the Turbine Area and Access Routes	This Zol is a precautionary distance based on observed impacts of habitat degradation
Disturbance of fauna resulting in displacement or a reduction in productivity/survival rates	Up to 50m for individual species.	This Zol is based on species specific guidance for the species or species groups identified as occurring or potentially occurring within the Turbine Area. This includes bats, amphibians, reptiles, otter and water vole.
Effects of electro-magnetic fields (EMF) and heat produced by transmission cables beneath watercourses.	Within 10m of cable route crossings passing underneath watercourses	This Zol is based on modelled EMF levels occurring adjacent to high voltage cable ⁶¹ .

⁶¹ National Grid (2015). Undergrounding high voltage electricity transmission lines: The Technical Issues. Available at https://www.nationalgrid.com/sites/default/files/documents/39111-Undergrounding_high_voltage_electricity_transmission_lines_The_technical_issues_INT.pdf.

Decommissioning Phase Effects		
Direct land take and land use change resulting in degradation and/or loss of habitat	Within the Turbine Area (specifically in areas identified for decommissioning). Within Access Routes and Bradford West Cable Corridor	Direct land take will only occur within defined decommissioning areas.
Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat	Distances of up to 10m from decommissioning areas within the Turbine Area, Access Routes and Bradford West Cable Corridor	Examples from wind farm sites in Scotland have resulted in a regulator acceptance of effects being limited to within 10m of excavations (in line with Chapter 10: Hydrogeology, Hydrology, Geology and Peat).

<p>The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support.</p>	<p>Distances of up to 1km from pollution sources along connected watercourses, lakes and reservoirs</p>	<p>A precautionary distance has been applied using professional judgement taking into account typical Zol distances for pollution control.</p>
<p>Dust deposition resulting in degradation and/or loss of habitat</p>	<p>Up to 250m from decommissioning areas within the Turbine Area, Access Routes and Bradford West Cable Corridor</p>	<p>The Zol is based on best practice guidance produced by the IAQM⁶².</p>
<p>Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat</p>	<p>Up to 200m from identified vehicle routes within the Turbine Area, Access Routes and Bradford West Cable Corridor</p>	<p>The Zol is based on best practice guidance produced by IAQM⁶³.</p>
<p>Decommissioning activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates</p>	<p>Up to 50m for species or species groups</p>	<p>This Zol is based on species-specific guidance for the species or species groups identified as occurring or potentially occurring within the Turbine Area. This includes bats, amphibians, reptiles, otter and water vole.</p>

⁶² The Institute of Air Quality Management (IAQM) (2024). Guidance on the assessment of dust from demolition and construction. January 2024 (Version 2.2)

⁶³ Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1, Institute of Air Quality Management, London.

8.8.7 The sections below describe the approach to assessment of effects for each scoped in ecological feature and provides the preliminary assessment for each phase of the Proposed Development.

Ecological Feature: South Pennine Moors SAC and South Pennine Moors SSSI

Construction Phase

8.8.8 During the construction phase, the following likely significant effects have been identified for the South Pennine Moors SAC and SSSI:

- Direct land take and land use change resulting in degradation and/or loss of habitat;
- Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat (including irreplaceable habitats);
- The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support;
- Dust deposition resulting in degradation and/ or loss of habitat (including irreplaceable habitats);
- Changes in air quality resulting in degradation and/ or loss of habitat; and
- Changes in levels of recreational pressure resulting in degradation and/or loss of habitat (i.e. through access tracks providing opportunities for cyclists and walkers).

8.8.9 These designated sites share a common boundary and multiple designated features as described in **Section 8.5**. Therefore, the assessment provided below is applicable to both sites. Additional features of the South Pennine Moors SSSI have been highlighted and considered separately below, where applicable.

8.8.10 Construction would be phased over a period of 30 months, with an anticipated earliest construction start date of Q4, 2029 with impacts occurring throughout that period. Specific phasing and timing of construction will be provided as part of the DCO Application and considered within the ES.

Direct land take and land use change resulting in degradation and/or loss of habitat

Approach

- 8.8.11 The preliminary assessment presented below uses the current habitat baseline, which is described in **Section 8.5** and **Appendix 8-3** as the basis of the calculation and identifies the total area of predicted habitat loss as a result of construction.
- 8.8.12 Using the description presented in **Chapter 4: The Proposed Development**, the following infrastructure has been incorporated within preliminary calculations and assume permanent habitat loss for all elements:
- Internal site access tracks (including all floated tracks and founded tracks);
 - Tower foundation and construction areas;
 - Crane hardstanding and auxiliary crane pads;
 - Turning heads;
 - Working areas, tower storage and blade storage areas;
 - Widening of existing tracks;
 - Substation platform;
 - Construction compound(s); and
 - Borrow pits.
- 8.8.13 The extent to which habitat loss associated with the Proposed Development can be considered “temporary” will be defined the ES and will be a key consideration of proposals for habitat mitigation and restoration.
- 8.8.14 Incorporated into the areas identified are earthwork “cut and fill” areas required to create suitable construction areas for infrastructure. All calculations are based on the locations and development footprint presented in **Chapter 4: The Proposed Development** and associated **Figures 4-1** and **4-2**.
- 8.8.15 Potential impacts and loss of habitat as a result of changes in hydrology are described separately below and provides a realistic estimate of the total, direct habitat loss.
- 8.8.16 Habitat loss associated with watercourse crossings is not included within the total areas as the design has not yet confirmed the nature of each crossing to be used. It is currently proposed that three crossing types could be utilised; closed pipe culvert, bottomless arch culvert or bridge structures. This will be subject to further survey, analysis and hydrological assessment and will be presented in the ES.

Preliminary assessment

- 8.8.17 Detailed baseline habitat data is available for the Turbine Area and a section of the Western Access Route only, as shown in **Figure 8-3**. The remaining sections of the Western Access Route, the Eastern Access Route and the Bradford West Cable which overlap the South Pennine Moors SAC and SSSI will be subject to survey in 2026.
- 8.8.18 Based on the design and baseline data, it is predicted that the Proposed Development would result in the permanent, direct loss of 67.2ha of habitat within the SAC and SSSI (associated with the Turbine Area and part of the Western Access Route). Further construction information is required to confirm the extent of temporary habitat loss along with options for habitat restoration to understand the potential for full restoration of habitat type and condition. This will be presented as part of the final ES.
- 8.8.19 Within the Turbine Area, construction is anticipated to result in the permanent loss of the following Annex I habitats, which are designated features of the South Pennine Moors SAC:
- Blanket bog (H7130);
 - European dry heath (H4030); and
 - North Atlantic wet heaths (H4010).
- 8.8.20 Additional habitats which are designated features of the South Pennine Moors SSSI include:
- Upland flushes, fens and swamps; and
 - Upland acid grassland.
- 8.8.21 **Table 8-15** provides a summary of the total areas of direct habitat being lost within the Turbine Area. These estimates are based on the current baseline as described in **Appendix 8-3: Habitat Baseline Report (2023-2025)** and will be subject to further survey and analysis in 2026. They will also be subject to design refinement ahead of the ES.

Table 8-15: Summary of Permanent Habitat Loss Areas within the Turbine Area

Habitat Type	Area (ha)
Blanket bog (H7130)	10.4
Degraded blanket bog	21.5

Habitat Type	Area (ha)
Wet heathland with cross-leaved heath; upland (H4010)	9.5
Dry heaths; upland (H4030)	15.3
Developed land; sealed surface	0.8
Modified grassland	4.4
Other upland acid grassland	3.6
Other upland acid grassland - Rushes dominant	0.4
Other upland acid grassland - Rushes dominant, Wet	0.6
Upland flushes fens and swamps	0.5
Bracken	0.2

- 8.8.22 The Western Access Route incorporates approximately 1.7km of Lancashire Moor Road which is within or directly adjacent to the South Pennine Moors SAC and SSSI. Proposed widening will result in the loss of habitat, though the extent and type of habitat to be lost will be subject to final design and routeing. The habitats within these areas will be subject to survey and confirmation of habitat type in 2026.
- 8.8.23 The Eastern Access Route and Bradford West Cable Corridor share a common boundary where they exit the Turbine Area and join the A6033. Works within this section which overlap with the South Pennine Moors SAC and SSSI will be limited to cable installation and will be targeted within roadside verges.
- 8.8.24 The Eastern Access Route incorporates approximately 1.8km of Cold Edge Road and Nab Water Lane, which is within or directly adjacent to the South Pennine Moors SAC and SSSI. Proposed widening will result in the loss of habitat, though the extent and type of habitat to be lost will be subject to final design and routeing. The habitats within these areas will be subject to survey and confirmation of habitat type in 2026.
- 8.8.25 The approaches to Export Cable installation are subject to confirmation and are expected to include a combination of open cut methods and trenchless techniques (e.g. Horizontal Directional Drilling (HDD)). The parameters for the buried cable are provided in **Chapter 4: The Proposed Development** and are expected to include trench widths between 0.91m– 1.91m. If two trenches are required, this may require separation of up to 8m, resulting in a maximum cable corridor width of 10-12m.

- 8.8.26 Estimation of the total area being permanently or temporarily lost within the South Pennine Moors SAC and SSSI will be subject to confirmation of the methods required in each location and will be presented as part of the ES.
- 8.8.27 The design process for the Proposed Development has sought to minimise the areas of habitat loss, in particular seeking to re-position turbines and infrastructure such that areas of deep peat (i.e. peat occurring at a depth of 30cm or more), and therefore locations most likely to support blanket bog habitat, are avoided or minimised. Habitat mitigation and compensation is being developed to address the loss of the habitats identified. It is anticipated that this will include a combination of onsite and offsite measures as described in Section 8.6. Given the loss of irreplaceable habitat, any compensation will require a bespoke HMMP to be agreed with relevant consultees.
- 8.8.28 The loss of habitat as described is currently predicted to result in a high magnitude impact that requires mitigation and compensatory action to ensure the continued integrity of the habitat features of the South Pennine Moors SAC and SSSI and therefore a significant adverse effect cannot be ruled out on designated sites and their habitats of international and national importance respectively.

Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat (including irreplaceable habitats)

Approach

- 8.8.29 The Proposed Development will result in potential changes in surface and subsurface hydrology, which is assessed directly in **Chapter 10: Hydrology, Hydrogeology, Geology and Peat**.
- 8.8.30 Assessment of these changes needs to consider the surface and sub-surface hydrological regime present and how this supports the designated habitat features of the South Pennine Moors SAC and SSSI. The assessment of effects will follow published guidance and, where possible, quantify the area of habitats lost or degraded by the changes in surface and sub-surface hydrology.

Preliminary assessment

- 8.8.31 The habitats present within the Turbine Area are described in **Section 8.5** and include designated habitat features of the South Pennine Moors SAC and SSSI. Peatland habitats in particular are reliant on specific hydrological conditions, which includes a combination of surface and subsurface flows through the permeable peat soils where they form.
- 8.8.32 Blanket bogs and wet heath require permanent wet conditions and a high-water table condition to be maintained with high levels of rainfall and low

evapotranspiration rates. These conditions are critical for blanket bog to remain active and for bog habitats to continue increasing peat volume.

- 8.8.33 The South Pennine Moors SAC and SSSI is also supported by a vast network of water courses which contribute to the movement of surface water and the habitats present within the Turbine Area.
- 8.8.34 During construction, the Proposed Development could result in changes in both surface and sub-surface hydrology in a number of different ways, including:
- Increased surface run-off rate through changes in permeability;
 - Changes to surface topography resulting in changes to surface flow rate and direction;
 - Changes to the water table level resulting in flooding or droughting of habitats; and
 - Reduced peat stability.
- 8.8.35 The iterative design process for the Proposed Development has sought to minimise impacts on hydrology and hydrogeology and included:
- Measures to minimise cut and fill footprints through placement of infrastructure;
 - Use of peat mapping to identify areas where floating track should be used for internal site access routes; and
 - Infrastructure has also been sited to minimise the total number of watercourses crossing and encroachments with 50m buffer zones being applied to all mapped watercourses.
- 8.8.36 Environmental measures relating to hydrology and peat are described in **Chapter 10: Hydrology, Hydrogeology, Geology and Peat** and will include:
- Reuse of excavated peat to support habitat restoration, enhancement and creation (e.g. through patch repair of bare ground, restoration of eroded gullies and reinstatement of peat in cutover areas). Peatland restoration opportunities will be identified within the Turbine Area to improve the quality of peatland undisturbed by the Proposed Development;
 - The oCEMP (**Appendix 4-2**) will include temporary drainage measures to ensure the existing drainage regime is maintained during construction and that pollution of surface water runoff is managed. Furthermore, the oCEMP (**Appendix 4-2**) will contain measures to ensure that construction activities

would not impede flow routes where possible to ensure that flood risk is not increased elsewhere;

- Where appropriate, internal site access tracks will be constructed using permeable materials. Where peat is unable to be avoided, floating tracks will be used where possible, and if necessary other appropriate engineering solutions will be adopted; and
- Development of a long-term drainage strategy that will ensure that permanent infrastructure does not result in changes to hydrological inputs to sensitive habitats.

8.8.37 Whilst it is anticipated that the above measures will reduce the magnitude of impacts, changes in surface and sub-surface hydrology are considered highly likely due to the sensitivity of the habitats.

8.8.38 To estimate the potential loss of habitat, an additional buffer of 10m has been applied to all infrastructure when calculating habitat loss. Changes in surface and sub-surface hydrology within the Turbine Area could result in the permanent loss of a further 80ha of habitat (in addition to that lost directly through land take defined above). This is summarised per habitat type in **Table 8-16**.

Table 8-16: Summary of Habitat Loss as a Result of Hydrological Impacts

Habitat Type	Area (ha)
Blanket bog (H7130)	12.1
Degraded blanket bog	32.3
Wet heathland with cross-leaved heath; upland (H4010)	11.7
Dry heaths; upland (H4030)	13.9
Developed land; sealed surface	0.8
Modified grassland	3.3
Other upland acid grassland	4.5
Other upland acid grassland - Rushes dominant	1.2
Other upland acid grassland - Rushes dominant, Wet	0.4
Upland flushes fens and swamps	0.4
Bracken	0.2

- 8.8.39 As described above, the Access Routes and the Bradford West Cable Corridor cross areas of SAC and SSSI designated habitat or other non-designated habitat within the SAC and SSSI. Environmental measures described above will be applied to these components of the Proposed Development and will seek to minimise changes in surface and sub-surface hydrology.
- 8.8.40 The changes of surface and sub-surface hydrology described is currently predicted to result in a medium magnitude of impact that requires mitigation and environmental measures to minimise the effects/changes, as described above. The preliminary assessment therefore identifies that a significant adverse effect on the South Pennine Moors SAC and SSSI cannot be ruled out.
- 8.8.41 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support

Approach

- 8.8.42 The Proposed Development will increase the risk of pollution events within the South Pennine Moors SAC and SSSI through use of construction machinery and heavy plant along with the storage and use of materials to facilitate construction.
- 8.8.43 Assessment of these changes needs to consider the locations and nature of construction activity, proposed environmental measures and the proximity to and connectivity with the features of the South Pennine Moors SAC and SSSI.

Preliminary assessment

- 8.8.44 Avoidance of pollution events is primarily achieved through design and planning of construction areas and application of appropriate environmental measures.
- 8.8.45 Infrastructure within the Turbine Area has also been designed to minimise the number of watercourse crossings and encroachments, with 50m buffer zones being applied to all mapped watercourses. Proposed working compounds have been positioned, such that deliveries, stored fuels or other potentially toxic pollutants are located within less sensitive habitat areas and close to the Access Routes, minimising the need for transportation across sensitive habitats present.
- 8.8.46 Construction works would also be undertaken using all necessary and practical measures to minimise the release of additional sediment-laden run-off into nearby watercourses or via surface water.

- 8.8.47 Full environmental measures would be provided and agreed as part of the oCEMP (**Appendix 4-2**) and include measures to avoid, minimise or mitigate the risk of pollution/sediment impacts during construction, such as:
- Establishment of clear working areas and buffers from sensitive habitats;
 - Establishment of parking, delivery and storage areas using impermeable surfaces, drip trays or bunds;
 - Use of barriers or bunds to prevent accidental spills and pollution where necessary;
 - Development of a drainage strategy that will ensure that construction infrastructure does not increase the risk of pollution to sensitive habitats. This could include the use of temporary lagoons or silt traps; and
 - Plant, wheel and boot washing to be carried out for all construction related machinery, vehicles and personnel.
- 8.8.48 Working methods within sensitive habitat will be informed by those applied to wind farms in Scotland where construction occurs more regularly on peat substrates. Further details of good practice methods are provided in **Appendix 10-1** and will be developed further and presented in the ES.
- 8.8.49 The Access Routes and the Bradford West Cable Corridor cross areas of SAC and SSSI, including areas which support the designated features of these sites. Construction within these areas will be subject to the same environmental measures described above and will seek to avoid pollution of water courses or other surface water features such as ponds or flushes.
- 8.8.50 Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of toxic pollutants impacting the South Pennine Moors SAC or SSSI is avoided or minimised. Effects of pollution is currently predicted to result in a low magnitude of impact which is **Not Significant**. This should ensure that the integrity of the South Pennine Moors SAC and SSSI is not affected.
- 8.8.51 This assessment of effects will be refined and presented within the ES, taking into account the final design of the Proposed Development and the further development of proposed environmental measures and additional mitigation.

Dust deposition resulting in degradation and/or loss of habitat (including irreplaceable habitats)

Approach

- 8.8.52 The construction activities associated with the Proposed Development may result in the freeing and deposition of dust/sediment resulting in degradation or indirect loss of habitats. Assessment of dust impacts is also considered in **Chapter 16: Air Quality**.
- 8.8.53 The assessment of these changes needs to consider the locations of designated habitat features of the South Pennine Moors SAC and SSSI and the potential risk associated with construction activities. The assessment of effects will follow the IAQM guidance.

Preliminary assessment

- 8.8.54 Dust generated by the Proposed Development during construction has the potential to cause direct, temporary, medium-term effects up to 250m from construction and access locations upon ecological receptors. However, the greatest risks of deposition and therefore impact typically occur within 50m of source.
- 8.8.55 Guidance from IAQM suggests that, with appropriate mitigation in place, the effects of construction dust can be reduced effectively such that they are considered 'not significant'. The assessment therefore focuses on determining the appropriate level of mitigation.
- 8.8.56 Measures to minimise dust will be outlined within the oCEMP (**Appendix 4-2**) and consistent with requirements of local guidance⁶⁴. A full list of measures will be provided in the ES and include elements such as:
- Development of a Dust Management Plan;
 - Application of good site management to include recording and monitoring of dust and air quality observations. This should include daily on-site and where necessary offsite inspections;
 - Plan the site layout so that machinery and dust-causing activities are located away from receptors, as far as is possible;
 - Use of barriers, screens or wet fencing to capture wind-blown material from construction areas, stockpiles and exposed sediment;

⁶⁴ West Yorkshire Low Emissions Group (nd) Air Quality & Emissions Technical Planning Guidance <https://new.calderdale.gov.uk/sites/default/files/2023-08/Air-Quality-Emissions-Planning-Technical-Guide.pdf>.

- Vehicle management to minimise site speed, wheel washing, etc; and
- Effective waste management to minimise wind-blown debris/material.

8.8.57 As described in above, the Access Routes and the Bradford West Cable Corridor cross areas of SAC and SSSI designated habitat or other non-designated habitat within the SAC and SSSI. Construction within these areas will be subject to the same environmental measures described above and will seek to avoid impacts of dust deposition.

8.8.58 Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development would ensure that the risk of dust deposition impacting the South Pennine Moors SAC or SSSI is avoided or minimised. Effects of dust deposition are currently predicted to result in a low magnitude impact which is **Not Significant**. This should ensure that the integrity of the South Pennine Moors SAC and SSSI is not affected.

8.8.59 This assessment of effects will be refined and presented within the ES, taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Changes in air quality resulting in degradation and/or loss of habitat

Approach

8.8.60 The Proposed Development would result in increased levels of traffic and use of construction plant and their associated emissions, which could result in an increased deposition of pollutants. This could result in degradation or indirect loss of habitats. The air pollutants of concern are nitrogen (N), ammonia (NH₃), nitric oxide and nitrogen dioxide (NO_x) and sulphur dioxide (SO₂). The assessment of air quality impacts is also considered in **Chapter 16: Air Quality**, with estimated changes in road traffic defined in **Chapter 14: Transport and Access**.

8.8.61 Assessment of these changes needs to consider the locations of designated habitat features of the South Pennine Moors SAC and SSSI and the potential risk associated with construction activities and plant use and increased traffic levels including deliveries and construction related traffic. The assessment of effects follows approaches described by IAQM⁶⁰.

Preliminary assessment

8.8.62 Background concentrations of t; N, NH₃, NO_x and SO₂ have been estimated using Defra's 2021-based background maps with critical loads for designated features identified using the Air Pollution Information System (APIS). **Table 8-17** provides a summary of the critical load per habitat and the current modelled baseline with the South Pennine Moors SAC and SSSI.

Table 8-17: Summary of Critical Loads/Levels for Pollutants of Concern (Summarised from APIS)

Habitat Type	Critical Load for N (kgN/ha/yr)	NH ₃ critical level (ug m ⁻³)	NOx critical level (ug m ⁻³)	SO ₂ critical level (ug m ⁻³)
Blanket bog	5-10	1	30	10
European Dry Heath	5-15	1	30	10
North Atlantic Wet Heath	5-15	1	30	10
Valley Mires, Poor fens and transition mires	5-15	1	30	20
Moist or wet mesotrophic to eutrophic hay meadow	15-25	1 or 3	30	10-20
Observed Level 2021	17.96	0.82	6.01	0.85

- 8.8.63 Based on the current baseline, the background levels for N are already exceeding the maximum critical load for peat and heath habitats, including blanket bog, dry heath, wet heath and mires. Observed NH₃ levels are also close to equalling or exceeding critical levels for most habitats.
- 8.8.64 The SSSI designation includes acid grassland habitats which are categorised as “*Moist or wet mesotrophic to eutrophic hay meadow*”. These habitats are more tolerant of changes to air quality with higher critical loads for N and NH₃, respectively.
- 8.8.65 Further survey work to record the observed levels of NH₃ within the Turbine Area is proposed during 2026 and will be used to validate the modelled data presented above.
- 8.8.66 To construct the Proposed Development, a variety of vehicles will be required as outlined in **Chapter 14: Transport and Access**, including:
- Cars, LGVs and vans;
 - Articulated and rigid HGVs delivering plant, materials and electrical components;

- Rigid and articulated HGVs delivering bulk materials such as aggregate, ready-mix concrete, etc for use;
- Specialist machinery, usually delivered using low loader style articulated HGVs, including loads that may include loads such as heavy plant; and
- Abnormal Indivisible Loads (AILs) carrying special oversized loads such as the proposed turbine components.

- 8.8.67 Traffic modelling estimates an overall increase of traffic movements of no more than 5.8% at its peak, noting that this includes increases on the existing road network, outside of the South Pennine Moors SAC and SSSI. The relative increase in vehicles movement is predicted to be greatest along Lancashire Moor Road/Two Laws Road, which forms the Western Access Route connecting the existing road network with the construction compound at Watersheddles Reservoir. As described above, the Western Access Route is located within or immediately adjacent to the SAC/SSSI boundary for approximately 1.8km.
- 8.8.68 The assessment of air quality effects also needs to consider the input from Non-Road Mobile Machinery (NRMM), including construction vehicles, heavy plant and other machinery such as mobile generators. Estimated numbers of NRMM required to construct the Proposed Development are not currently available. Further detail regarding the construction programme will be developed for the ES and used to define a predicted maximum number of vehicles and plant working within the South Pennine Moors SAC and SSSI during construction.
- 8.8.69 Standard measures to minimise potential impacts of construction traffic will be outlined within the oCEMP (**Appendix 4-2**) and consistent with the requirement of the local guidance⁶⁵. A full list of measures will be provided in the ES and as detailed above for dust deposition.
- 8.8.70 As described above, the Access Routes and the Bradford West Cable Corridor cross areas of SAC and SSSI designated habitat or other non-designated habitat within the SAC and SSSI. Construction within these areas will be subject to the same environmental measures described above and will seek to avoid impacts of increased traffic emissions.
- 8.8.71 In the absence of detailed construction information (including scheduling, construction methods and the estimated use of NRMM), the magnitude of impact cannot be estimated. Therefore, **a significant adverse effect** on the South Pennine Moors SAC and SSSI cannot be ruled out at this stage.

⁶⁵ West Yorkshire Low Emissions Group. Air Quality & Emissions: Technical Planning Guidance. Part of the West Yorkshire Low Emissions Strategy.

- 8.8.72 This assessment of effects will be refined and presented within the ES taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Changes in levels of recreational pressure resulting in degradation and/or loss of habitat (including irreplaceable habitats)

Approach

- 8.8.73 The Proposed Development may result in degradation or loss of habitat features of the South Pennine Moors SAC and SSSI as a result of changes to recreational activity.
- 8.8.74 Assessment of these changes needs to consider the locations of designated habitat features of the South Pennine Moors SAC and SSSI and the potential risk associated with recreational activity, in particular that which is altered as a result of construction. The assessment will consider the observed impact of recreational pressure within upland designated sites^{66, 67} and predicted changes to the footpath network during the construction programme.

Preliminary assessment

- 8.8.75 Increased recreation in upland habitats within the UK, primarily hill walking, rock climbing and mountain biking has resulted in increased use and pressure on existing footpath networks⁶⁶. The Turbine Area is crossed by a number of Public Rights of Way (PRoW), including the Pennine Way which is a well-established and maintained National Trail/long-distance footpath which passes south to north through the Turbine Area.
- 8.8.76 As part of the Proposed Development, paths and PRoW may be interrupted or closed as a result of construction activity. Re-routing and closure of footpaths may encourage recreational users to seek alternative routes through sensitive areas of habitat, including designated habitat features of the SAC/SSSI.
- 8.8.77 Studies have shown that this can result in irreversible damage to upland habitats⁶⁸ with impacts occurring up to 2m either side of an established route⁶⁹.
- 8.8.78 During the construction phase, works will therefore take into account any limitations to public access and ensure provision of alternative routes that are suitable for users and discourage informal path establishment through working areas. The

⁶⁶ Gilchrist, A., Glentworth, J., Mohd Radzuan, H.S. and Clay, C.D. 2023. The Influence of Recreational Activity on Upland Ecosystems in the UK: A Review of Evidence. NEER025. Natural England.

⁶⁷ MacKay, R., & Prager, K. (2021). The dilemma of upland footpaths –understanding private landowner engagement in the provision of a public good. *Scottish Geographical Journal*, 137(1–4), 131–157.

⁶⁸ Cole, D. (2004). Impacts of hiking and camping on soils and vegetation: A review. In R. Buckley (Ed.), *Environmental impacts of ecotourism* (pp. 41–60). CABI Publishing.

⁶⁹ Morrocco, S., & Ballantyne, C. (2008). Footpath morphology and terrain sensitivity on high plateaux: The Mamore mountains, Western Highlands of Scotland. *Earth Surface Processes and Landforms*, 33(1), 40–54.

potential for recreational impacts to occur from the Access Routes and Bradford West Cable Corridor are lesser, given the nature of works in these sections. However, where these intersect with PRow, re-routing and provision of a clear alternative would need to be provided.

- 8.8.79 To account for potential changes in recreational use, an Onsite Access Management Plan will be developed that takes into account potential impacts on access routes with appropriate re-routing of footpaths included, where applicable.
- 8.8.80 Proposed measures should ensure that the risk of recreational impacts on South Pennine Moors SAC or SSSI is avoided or minimised. However, in the absence of an access strategy which accounts for recreational impacts, the magnitude of impact cannot be estimated. Therefore, **a significant adverse effect** on the South Pennine Moors SAC and SSSI cannot be ruled out at this stage.
- 8.8.81 This assessment of effects will be refined and presented within the ES taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Operational and Maintenance Phase

- 8.8.82 During the operational and maintenance phase, the following likely significant effects have been identified for the South Pennine Moors SAC and SSSI:
- Changes in levels of recreational pressure resulting in degradation and/or loss of habitat.

Changes in levels of recreational pressure resulting in degradation and/or loss of habitat

Approach

- 8.8.83 The Proposed Development may result in degradation or loss of habitat features of the South Pennine Moors SAC and SSSI as a result of increased recreational activity during operation.
- 8.8.84 Assessment of these changes needs to consider the locations of designated habitat features of the South Pennine Moors SAC and SSSI and the potential risk associated with recreational activity, in particular that which is altered as a result of increased access opportunity throughout the Turbine Area and Access Routes. The assessment considers the observed impact of recreational pressure within upland designated sites^{70, 71} and predicted changes to access following development.

⁷⁰ Gilchrist, A., Glentworth, J., Mohd Radzuan, H.S. and Clay, C.D. 2023. The Influence of Recreational Activity on Upland Ecosystems in the UK: A Review of Evidence. NEER025. Natural England.

⁷¹ MacKay, R., & Prager, K. (2021). The dilemma of upland footpaths –understanding private landowner engagement in the provision of a public good. *Scottish Geographical Journal*, 137(1–4), 131–157.

Preliminary assessment

- 8.8.85 The Proposed Development will increase viable access with the introduction of permanent new Access Routes to facilitate both construction and then maintenance. The new internal site access tracks may act as an attractant for recreational users, providing easier access to Walshaw Moor and enabling access to more remote areas along these tracks.
- 8.8.86 As described for the construction phase, increased recreational activity (from legal users, including hill walkers, mountain bikers, dog walkers, as well as potential illegal users, such as motocross users) may result in degradation or loss of habitats, in particular where users leave the internal site access tracks and seek alternative routes through sensitive habitat. It is therefore critical that access to the South Pennine Moors SAC and SSSI is well managed and that a strategy for maintaining access routes and ensuring safe use of the designated site. The Onsite Access Management Plan will include specific measures to account for the risks associated with recreational access.
- 8.8.87 Further work is required to estimate the predicted level of recreational activity with an approach to be agreed following consultation with relevant consultees and stakeholders. Further consultation is also required to confirm activities which pose the greatest risk and agree appropriate approaches to the management of recreational activity.
- 8.8.88 Proposed measures should ensure that the risk of recreational impacts on South Pennine Moors SAC or SSSI is avoided or minimised. However, in the absence of a fixed strategy the magnitude of impact cannot be estimated. Therefore, a significant adverse effect on the South Pennine Moors SAC and SSSI cannot be ruled out at this stage.
- 8.8.89 This assessment of effects will be refined and presented within the ES taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Decommissioning Phase

Approach

- 8.8.90 During the decommissioning phase, the following likely significant effects have been identified for the South Pennine Moors SAC and SSSI:
- Direct land take and land use change resulting in degradation and/or loss of habitat;
 - Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat;

- The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support;
- Dust deposition resulting in degradation and/or loss of habitat; and
- Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat.

8.8.91 The assessment of decommissioning effects will need to take account of future baseline conditions for the designated features of the SAC and SSSI. This will include habitat enhancement and management of designated features tied to proposals for habitat mitigation delivery as part of the Proposed Development.

8.8.92 Decommissioning is expected to occur after approximately 35 years of operation with activities predicted to occur over a two-year period. As described in **Chapter 4: The Proposed Development**, decommissioning is currently expected to include the following activities:

- Dismantling and removal of wind turbines;
- Demolition and removal of the substation compound, including dismantling and removal of electrical infrastructure; and
- Removal of other above-ground infrastructure, with the exception of turbine foundations, hardstandings and access tracks which are likely to remain in-situ.. Underground elements such as cabling is also likely to remain in situ. The turbine foundations and cabling are likely to remain in-situ.

8.8.93 However, the full extent of decommissioning activities has not yet been determined and will be available in greater detail for the ES. The activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development but occurring on a reduced scale.

8.8.94 Decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats in line with the conservation objectives of the South Pennine Moors SAC and SSSI as detailed in **Section 8.6**.

Preliminary assessment

8.8.95 In the absence of detailed information regarding decommissioning activities and , it is not possible to complete an accurate assessment of the various likely significant effects identified on SAC/SSSI habitat features.

8.8.96 The magnitude and significance of all impacts at decommissioning will be assessed in the ES and will be accompanied by a draft Habitat Restoration Plan designed to address the impacts of It is therefore not possible to rule out significant adverse effects on the South Pennine Moors SAC or SSSI during the decommissioning phase.

Ecological Feature: Local Non-Statutory Designated Sites

8.8.97 The desk study identified 26 sites which occur either within 2km of the Turbine Area or 1km of proposed Access Routes and/or the Bradford West Cable Corridor.

8.8.98 Local non-statutory designated sites which have been scoped in for assessment include the following sites which occur within the Zols of one or more likely significant effect:

- Nan Scar Clough LWS;
- Corn Close and Bent Moor DWS;
- Hardcastle Craggs LWS;
- Sun Hill Clough, Oxenthorpe LWS;
- New High Laith Farm LWS;
- Wycoller Pastures BHS;
- Emmot House Grassland BHS;
- Wycoller Beck BHS; and
- Doe Park Reservoir LWS.

8.8.99 All non-statutory designated sites are shown on **Figures A1-2, A1-7 and A1-12** in **Appendix 8-1: Desk Study Report**.

Construction Phase

8.8.100 During the construction phase, the following likely significant effects have been identified:

- Direct land take and land use change resulting in both permanent and temporary degradation and/or loss of habitat;
- The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support; and

- Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat.

8.8.101 Sites which have been included in the assessments are detailed below. All other construction effects are scoped out.

Direct land take and land use change resulting in both permanent and temporary degradation and/or loss of habitat

Approach

8.8.102 The Proposed Development overlaps with two non-statutory designated sites:

- Nan Scar Clough LWS; and
- Corn Close and Bent Moor DWS.

8.8.103 The area of habitat to be lost will be calculated using the final infrastructure layout and presented in the ES. Currently, it has been identified that the Access Routes and Bradford West Cable Corridor overlap with these sites; Nan Scar Clough LWS overlapping with the Eastern Access Route and Bradford West Cable Corridor and Corn Close and Bent Moor DWS overlapping with Western Access Route.

Preliminary assessment

8.8.104 Within Corn Close and Bent Moor DWS approximately 250m of access track is proposed, though this follows the route of an existing farm access track. Works would be required to formalise this route and it is therefore assumed that approximately 0.33ha of habitat could be lost. However, given that this section of the Corn Close and Bent Moor DWS is used for farm access it is considered that any impact would be of low magnitude and therefore not significant.

8.8.105 Within the Nan Scar Clough LWS, approximately 60m of the Export Cable is proposed, running perpendicular to the LWS boundary. The approach to the Export Cable installation is subject to finalisation throughout the route, with both open cut and trenchless (e.g. HDD) approaches possible. Assuming use of open cut approaches (as a worst-case scenario), a short-term, temporary impact on the LWS would occur. However, if it is assumed that appropriate habitat restoration within the LWS could be achieved following installation. It is predicted that any impact would be of low magnitude and therefore **Not Significant**.

The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support

Approach

- 8.8.106 The Proposed Development will potentially increase the risk of pollution events within non-statutory designated sites through the use of construction machinery and heavy plant, along with the storage and use of materials to facilitate construction, where those sites are hydrologically connected to construction areas.
- 8.8.107 Alcomden Water and Hebden Water potentially link the Turbine Area to Hardcastle Craggs LWS and New High Laith Farm LWS to the south, whilst Sun Hill Clough, Oxenthorpe LWS is potentially connected via an unnamed watercourse from the north of the Turbine Area. These sites all occur within <1km construction areas.
- 8.8.108 Emmot House Grassland BHS and Wycoller Beck BHS are also potentially connected being downstream of the Western Access Route, via the River Laneshaw and Ratten Clough, respectively.
- 8.8.109 Nan Scar Clough LWS and Doe Park Reservoir LWS are also potentially connected being within or downstream of the Eastern Access Route and Bradford West Cable Corridor, via the local ditch network and Denholme Brook respectively.
- 8.8.110 Assessment of effects considers the hydrological connection between the Turbine Area and the identified designated sites, proposed environmental measures and the extent to which pollution events are likely to occur.

Preliminary assessment

- 8.8.111 The approaches to avoiding and minimising the risk of pollution events are described in **Section 8.8, Paragraph 8.8.42.** under 'South Pennine Moors SAC and South Pennine Moors SSSI'.
- 8.8.112 Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of pollution is avoided or minimised. Effects of pollution is therefore currently predicted to result in a negligible magnitude of impact which is **Not Significant**, ensuring that the integrity of the identified non-statutory designated sites are unaffected.
- 8.8.113 This assessment of effects will be refined within the ES taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat

Approach

8.8.114 The Proposed Development would result in increased levels of traffic and construction activity and their associated emissions which could result in an increased deposition of air pollutants as described under the assessment of effects on the South Pennine Moors SAC and South Pennine Moors SSSI, **Section 8.8, Paragraph 8.8.60** onwards.

8.8.115 Assessment of these changes needs to consider the locations of non-statutory designated sites and the potential risk to associated ecological features from construction activities and plant use and increased traffic levels including deliveries and construction related traffic. The assessment of effects will follow approaches described by IAQM⁶⁰.

8.8.116 The following non-statutory designated sites have been identified as occurring within the Zol:

- Nan Scar Clough LWS;
- Corn Close and Bent Moor DWS; and
- Wycoller Pastures BHS.

8.8.117 The habitat occurring within these sites includes areas of open moorland and grassland, dry and wet heath and woodland habitats (woodland habitats are present in Nan Scar Clough LWS only). Wycoller Pastures BHS is also designated for its assemblage of grassland fungi.

Preliminary assessment

8.8.118 The Western Access Route passes through a short section of Corn Close and Bent Moor DWS as described in **paragraph 8.8.102**. It also passes closely adjacent to a separate section of the same designated site and is within 160m of Wycoller Pastures BHS.

8.8.119 The Eastern Access Route is immediately adjacent to a section of Nan Scar Clough LWS.

8.8.120 Habitat surveys of the Access Routes and interpretation of modelled traffic data is required to fully understand the risk of increased airborne pollutants within the identified non-statutory designated sites.

8.8.121 Standard measures to minimise potential impacts of construction traffic will be outlined within the oCEMP (**Appendix 4-2**) and consistent with the requirement of

the local guidance⁶⁴. A full list of measures will be provided in the ES and as detailed above for dust deposition. Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of traffic emission impacting the non-statutory designated sites is minimised.

8.8.122 Proposed environmental measures should ensure that any impact associated with changes in air quality is minimised. It is therefore predicted that the magnitude of impact associated with the Proposed Development would be low and therefore **Not Significant**.

8.8.123 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Decommissioning Phase

8.8.124 The full extent of decommissioning activities has not yet been determined and will be estimated for the ES. The activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development but occurring on a reduced scale.

8.8.125 During the decommissioning phase, the following likely significant effects have been identified for non-statutory designated sites:

- The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support.

8.8.126 All other decommissioning effects are scoped out.

The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support

Approach

8.8.127 As described under the assessment of effects on the South Pennine Moors SAC and South Pennine Moors SSSI, **Section 8.8, Paragraph 8.8.42** onwards, the full details of decommissioning activities will not be available until the ES. However, it is expected that the approach for assessment of effects on non-statutory designated sites will follow that defined for the construction phase.

8.8.128 Non-statutory designated sites which may occur within the Zol of the identified effect include:

- Hardcastle Crag LWS;

- New High Laith Farm LWS;
- Sun Hill Clough, Oxenthorpe LWS;
- Emmot House Grassland BHS;
- Wycoller Beck BHS;
- Nan Scar Clough LWS; and
- Doe Park Reservoir LWS.

Preliminary assessment

- 8.8.129 All decommissioning activities will be subject to a DEMP which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation as detailed in **Section 8.6**.
- 8.8.130 Proposed environmental measures will follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of pollution is avoided or minimised. Effects of pollution is currently predicted to result in a very low magnitude impact which is **Not Significant**.
- 8.8.131 This assessment of effects will be subject to update within the ES taking into account the details of the Proposed Development and the confirmation of all proposed environmental measures.

Ecological Feature: Priority Habitats – Rivers

Construction Phase

- 8.8.132 During the construction phase, the following likely significant effects have been identified for Rivers.
- Direct land take and land use change resulting in degradation and/or loss of habitat;
 - Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat; and
 - The introduction of toxic pollutants into the environment resulting in changes, loss or damage to freshwater environments and the species they support.

Direct land take and land use change resulting in degradation and/ or loss of habitat

Approach

- 8.8.133 Direct loss of riparian habitat will be calculated using the layout of the Proposed Development identifying locations where infrastructure overlaps with identified watercourses and this will be presented based on the final layout in the ES. Infrastructure has been designed to minimise the number of watercourse crossings and encroachments within 50m buffer zones that have been applied to all mapped watercourses to inform placement of infrastructure.
- 8.8.134 The type of crossing will be determined following further hydraulic assessment, and in consultation with the Environment Agency and the Lead Local Flood Authority. At this stage, the following types of crossings are anticipated to include a combination of:
- Closed pipe culvert;
 - Bottomless arch culvert; and
 - Bridge structure.

Preliminary assessment

- 8.8.135 The Proposed Development overlaps with a large number of watercourses within the Turbine Area, Access Routes and Bradford West Cable Corridor. The layout of the Proposed Development includes 41 crossing points over watercourses within the Turbine Area and a further 10-15 within the Access Routes (incorporating those with existing bridge crossings).
- 8.8.136 Surveys of all proposed crossing points will be undertaken during 2026 to ascertain the nature of the riparian habitats at each location and will be used in conjunction with hydrological modelling to identify the least damaging crossing point approach (where practicable). Measures to enhance river habitats will also be considered throughout the Proposed Development.
- 8.8.137 Whilst watercourses would be retained, modification to their alignment and installation of culverts could result in a permanent, medium magnitude of impact, resulting in a significant effect on rivers. However, ongoing work to ensure the use of the least damaging crossing point design and development of appropriate mitigation measures should ensure that the magnitude of the impact could be reduced such that effects would be considered **Not Significant**.
- 8.8.138 Further design development alongside survey and assessment will occur during 2026 and further mitigation identified, which will be presented in the ES.

Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat

Approach

- 8.8.139 The Proposed Development will result in potential changes in surface and subsurface hydrology which is assessed directly in **Chapter 10: Hydrology, Hydrogeology, Geology and Peat**.
- 8.8.140 Assessment of these changes needs to consider the potential impact to the quantity and quality of the water entering watercourses throughout the Proposed Development and the potential for habitat degradation or loss (in the event of significant changes to hydrology).

Preliminary assessment

- 8.8.141 Changes to surface and sub-surface hydrology could result in changes to the volume and quality of water reaching watercourses. Further analysis to model and quantify water volume and quality changes will be completed as part of the ES and used to assess the potential impacts on riparian habitats.
- 8.8.142 Habitat management and restoration measures will be developed under the HMMP to minimise indirect habitat loss and degradation of rivers and will include specific enhancement measures relating to watercourses.
- 8.8.143 In addition, the proposed drainage strategy should ensure that surface run off rates and the quality of water are maintained at current levels. The drainage strategy will be further developed and key design principles/aspects presented in the ES.
- 8.8.144 In the absence of this information, it is not possible to complete an assessment of the magnitude of this effect or to rule out significant effects on rivers during the construction phase. The magnitude and significance of this effect during construction will be assessed in the ES.

The introduction of toxic pollutants into the environment resulting in changes, loss or damage to riparian habitats and the species they support

Approach

- 8.8.145 The Proposed Development will increase the risk of pollution events within riparian habitat through use of construction machinery and heavy plant along with the storage and use of materials to facilitate construction.
- 8.8.146 Assessment of these changes needs to consider the locations and nature of construction activity, proposed environmental measures and the proximity to and connectivity with watercourses.

Preliminary assessment

- 8.8.147 The approaches to avoiding and minimising the risk of pollution events are described under the assessment of effects on the South Pennine Moors SAC and SSSI, **Section 8.8, Paragraph 8.8.42** onwards.
- 8.8.148 Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of pollution is avoided or minimised. Effects of pollution is therefore currently predicted to result in a negligible impact on rivers which is **Not Significant**.
- 8.8.149 This assessment of effects will be refined within the ES taking into account the final design of the Proposed Development and the development of proposed environmental measures and additional mitigation.

Decommissioning Phase

- 8.8.150 During the decommissioning phase, the following likely significant effects have been identified for rivers:
- The introduction of toxic pollutants into the environment resulting in changes, loss or damage to riparian environments and the species they support.
- 8.8.151 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of these documents will be developed once full details with respect to decommissioning are available.
- 8.8.152 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified or to rule out significant effects on rivers during the decommissioning phase. The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Protected Species: Bats

Construction Phase

- 8.8.153 During the construction phase, the following likely significant effects have been identified for bats:
- Direct land take and land use change resulting in degradation and/or loss of habitat.
- 8.8.154 Indirect impacts on habitats as defined under the assessment of effects on the South Pennine Moors SAC and SSSI (**Section 8.8, Paragraphs 8.8.42, 8.8.52,**

8.8.60 and 8.8.73) contribute to the potential overall loss of habitat. For the assessment of effects on bats, this includes consideration of the following:

- Indirect habitat loss and degradation, as a result of;
 - Changes in surface and sub-surface hydrology;
 - The introduction of toxic pollutants into the environment;
 - Dust deposition;
 - Changes in air quality; and
 - Changes in levels of recreational activity.

Direct land take and land use change resulting in degradation and/or loss of habitat

Approach

8.8.155 Direct loss of habitat has been calculated using the layout of the Proposed Development identifying locations where construction will occur.

8.8.156 The assessment will consider the total loss of habitat and the potential impact this could have on bats.

Preliminary assessment

8.8.157 It is not anticipated that the Proposed Development will result in the loss of any known roosts or buildings or trees with roost potential. However, the construction of infrastructure for the Proposed Development is anticipated to result in the loss of an estimated 67.2ha of habitat, as a result of direct land take (as detailed in **Table 8-15**), within the Turbine Area, which could be used by bats for foraging and commuting.

8.8.158 The upland nature of the habitats within the Turbine Area makes it generally of low suitability for commuting or foraging bats, with baseline surveys confirming relatively low levels of activity in areas of peatland habitat in particular. Despite their low suitability, these habitats may support small numbers of bats which forage in more open conditions, such as common and soprano pipistrelle. The loss of relatively small areas of sub-optimal habitats would be inconsequential for the wider bat population, especially given the availability of similar or more optimal foraging habitat in the wider landscape, including wooded valleys, watercourse and reservoirs margins. This was demonstrated by the results of the static detector surveys which recorded highest levels of bat activity along stream valleys and

alongside the reservoir where construction activity is not proposed and where conditions are more sheltered.

- 8.8.159 It is considered that any habitat removal would not result in direct severance of linear features (e.g. treelines or hedgerows) that may be used by bats for commuting. The habitats to be lost are not unique in a site or local context, and their loss would have limited effect on the availability or value of bat foraging habitat locally.
- 8.8.160 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field surveys to assess habitat suitability for bats have not yet been completed and will be undertaken in Spring/summer 2026. This will identify potential roost locations and/or habitats and features which may be valuable for commuting or foraging bats. Loss of habitat within these areas will be minimised through design and construction methods as described in **paragraph 8.8.23 – 8.8.25**.
- 8.8.161 Taking into account the retention and enhancement of habitats and other proposed environmental measures, the direct loss of habitat would likely result in a low magnitude, permanent impact on bats and would result in no change to the conservation status of the populations which utilised/occur within the Proposed Development. However, development of habitat mitigation measures is required to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.
- 8.8.162 Further survey and assessment will be completed during 2026 as outlined in **Table 8-11** and further mitigation identified, which will be presented in the ES.

Indirect habitat loss and degradation

Approach

- 8.8.163 Construction will potentially cause indirect effects, which contribute to overall loss and degradation of functional habitat that supports foraging and commuting bats. Approaches to assessment of these indirect effects are detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI.
- 8.8.164 The ZoI of these effects overlap, with distances typically calculated from the boundary of construction activity with an additional distance buffer attributed, based on the nature of the activity and the sensitivity of the habitat. To estimate the potential area of habitat impacted overall, a stratified “worst-case scenario” has been derived that considers the distance from construction activities that habitat could be considered “lost” and the additional distance beyond that which considers the habitat to potentially be degraded as a result of construction activities.

8.8.165 Proposed environmental measures will seek to avoid or minimise the magnitude and extent of these effects, therefore an adjusted Zol has been defined for each and used to estimate the additional indirect loss of habitat and degradation.

Preliminary assessment

8.8.166 **Table 8-18** provides a summary of the Zols or buffers applied to construction activities for each of likely significant effects identified.

Table 8-18: Summary of Zol/Buffer Distances Identified for Activities which Result in Indirect Habitat Loss or Degradation

Effect/Activity	Zol/Buffer Distance	Reduced Zol with Environmental Measures	Justification for Reduction in Zol
Changes in surface and sub-surface hydrology	Up to 10m from construction locations	-	Habitat loss as a result of changes in surface and sub-surface hydrology is predicted to occur within 10m of impacts (i.e. direct land take) as detailed in Table 8-14 and Chapter 10: Hydrology, Hydrogeology, Geology and Peat . NatureScot guidance ⁷² identified a maximum distance of hydrological effects in peatland soils occurring within 30m. On a precautionary basis, it is therefore assumed that degradation of habitats could occur within areas 10-30m from direct land take.
The introduction of toxic pollutants into the environment	Distances of up to 1km from pollution sources along	Reduced to 100m with environmental measures	The maximum 1km Zol presented in Table 8-14 assumes no environmental measures would be applied.

⁷² NatureScot (2023). Advising on peatland, carbon-rich soils and priority peatland habitats in development management. Available at <https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management>.

Effect/Activity	Zol/Buffer Distance	Reduced Zol with Environmental Measures	Justification for Reduction in Zol
	connected watercourses, lakes and reservoirs		<p>Environmental measures during construction are described in Section 8.5 and would include specific measures within a CEMP to avoid and minimise the risk of accidental pollution incidents.</p> <p>Whilst it is assumed that this would ensure that pollution events could be avoided, a precautionary buffer of 100m around construction areas is considered appropriate to account for the potential impacts of pollution resulting in habitat degradation.</p>
Dust deposition	Up to 250m from construction areas	Reduced to 50m with environmental measures	<p>250m is the maximum distance from which impacts could occur from a construction site entrance along the road network. The IAQM guidance⁵⁹ states that the greatest risk of impact would occur within 50m of construction work and either side of roads/tracks. This is used on a precautionary basis.</p>
Changes in air quality	Up to 200m from identified vehicle routes	Reduced to 100m with environmental measures	<p>200m is the maximum Zol as identified in Table 8-14 and is based on IAQM guidance⁶⁰.</p> <p>Concentrations of air pollution would be highest in areas closest to sources and would be dispersed more widely over larger distances.</p>

Effect/Activity	Zol/Buffer Distance	Reduced Zol with Environmental Measures	Justification for Reduction in Zol
			Environmental measures are described in paragraph 8.56 and are designed to minimise the risk of air pollution. A reduced distance of 100m is therefore assumed.
Changes in levels of recreational activity	Up to 50m from identified footpaths and access tracks within the Turbine Area and Access Routes	Reduced to 20m with environmental measures	50m is the maximum distance as defined in Table 8-14 . Environmental measures are described in paragraph 8.8.79 and are designed to minimise the risk of recreational impacts. A reduced distance of 20m is therefore assumed.

8.8.167 It is assumed that indirect effects could include loss of habitat up to 10m from construction activity. This follows the approach detailed for hydrological effects under the assessment of effects on the South Pennine Moors SAC and SSSI above. Beyond this initial 10m, an estimated further 90m (up to a maximum distance of 100m) is assumed to result in indirect degradation of habitat.

8.8.168 Following this approach, quantified indirect impacts can only be estimated for the Turbine Area, where detailed habitat surveys have been completed. **Table 8-19** provides a breakdown of the areas of habitat assumed lost and the area of habitat potentially degraded during construction. This is considered a realistic, worst-case scenario and will be used to identify requirements for construction mitigation to further reduce the area of habitat degraded.

8.8.169 A Habitat Mitigation and Compensation Strategy is being developed to address the loss and degradation of habitats during construction and will include measures to address both permanent loss and degradation of habitats, reversing degradation where practicable.

Table 8-19: Summary of Estimated Total Indirect Habitat Loss and Degradation within the Turbine Area

Habitat Type	Area (ha) of loss within 10m	Area (ha) of degradation between 10m and 100m
Blanket bog (H7130)	12.1	115.65
Degraded blanket bog	32.3	306.06
Wet heathland with cross-leaved heath; upland (H4010)	11.7	108.29
Dry heaths; upland (H4030)	13.9	140.05
Developed land; sealed surface	0.8	5.71
Modified grassland	3.3	32.25
Other upland acid grassland	4.5	45.4
Other upland acid grassland - Rushes dominant	1.2	13.25
Other upland acid grassland - Rushes dominant, Wet	0.4	2.73
Upland flushes fens and swamps	0.4	7.3
Bracken	0.2	3.37
Other coniferous woodland	0	3.14
Total	80.8	783.2

8.8.170 Indirect habitat loss within Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of details with regard to construction approaches (in particular for the Export Cable). These areas will be subject to survey in 2026 alongside the refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.171 The indirect loss or degradation of habitat would likely result in both permanent and temporary impacts of low magnitude on bats and, therefore, no change to the conservation status of the regional bat populations. However, further survey and development of mitigation measures is required to provide confidence in this assigned magnitude of impact, and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.

8.8.172 Further survey and assessment will be completed during 2026 as identified in **Table 8-11** and further mitigation will be identified, which will be presented in the ES.

Operational and Maintenance Phase

8.8.173 During the operational and maintenance phase, the following potentially significant effects have been identified for bats:

- Collision with turbine blades resulting in injury or death.

Collision with turbine blades resulting in injury or death

Approach

8.8.174 The principal mechanism for significant effects on bats is from fatalities/injuries caused by collision with wind turbines or barotrauma (collectively referred to herein as ‘collision risk’). The method for quantifying collision risk for bats from onshore wind turbines is detailed in the NatureScot (2021)²¹.

8.8.175 Following this guidance, a collision risk assessment for bats will be carried out, which estimates the vulnerability of bat populations to wind farms based on the following factors:

- Relative abundance and collision risk of bat species;
- The project size and habitat suitability; and
- Recorded bat activity.

8.8.176 **Table 8-20** outlines the relative abundance and level of potential vulnerability from wind farms of populations of English bat species, which has been used to inform the assessment.

Table 8-20: Level of Potential Vulnerability of Populations of English Bat Species

Relative Abundance	Low Collision Risk	Medium Collision Risk	High Collision Risk
Common Species	Brown long eared		Common pipistrelle Soprano pipistrelle
Rarer Species	Daubenton's Natterer's Whiskered Brandt's Lesser horseshoe	Serotine	Nathusius' pipistrelle Noctule Leisler's
Rarest Species	Alcathoe Bechstein's	Barbastelle	

Relative Abundance	Low Collision Risk	Medium Collision Risk	High Collision Risk
	Greater horseshoe Grey long-eared		

Extracted from Bats and Onshore Wind Turbines (2021). Yellow = low population vulnerability, Orange = medium population vulnerability, Red = high population vulnerability.

8.8.177 The species recorded within the Turbine Area that are considered to be ‘high collision risk’ were common pipistrelle, soprano pipistrelle, Nathusius’ pipistrelle, Leisler’s bat and Noctule; the other species recorded were all ‘low collision risk’ and therefore further consideration will not be required (in line with the Bats and onshore wind turbines - survey, assessment and mitigation guidance, as the risk of mortality from collision is low such a significant effect could not occur).

8.8.178 A PSMMS will be developed for bats to include monitoring of bat activity levels during operation. The timing and length of monitoring will be agreed through consultation with relevant stakeholders.

Preliminary assessment

8.8.179 Collision Risk Assessment for bats will be carried out based on the fixed layout and presented in the ES. This will include consideration of the impacts of the windfarm overall and also at sub-areas within the array to identify any specific locations and turbines which may result in a greater risk of collision (i.e. locations where high-risk species occur more frequently).

8.8.180 Given the relatively low levels of bat activity observed, in particular at elevated levels within the Turbine Area, it is anticipated that any effect would be of very low – low magnitude and therefore any effect on the regional bat population would be not significant. However, at present it is not possible to confirm the magnitude of any potential effect, therefore on a precautionary basis a significant adverse effect on bats cannot be fully ruled out at this stage.

8.8.181 Further assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Decommissioning Phase

8.8.182 During the decommissioning phase, the following likely significant effects have been identified for bats:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.183 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.184 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified or to rule out significant adverse effects on bats during the decommissioning phase.

8.8.185 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Protected Species: Amphibians

Construction Phase

8.8.186 During the construction phase, the following likely significant effects have been identified for amphibians:

- Direct land take and land use change resulting in degradation and/ or loss of habitat; and
- Indirect habitat loss and degradation.

Direct land take and land use change resulting in degradation and/ or loss of habitat

Approach

8.8.187 Direct loss of habitat has been calculated using the infrastructure layout for the Proposed Development identifying locations where construction will occur.

8.8.188 Blanket bog, wet heath and flushes feature permanent and ephemeral pools and ponds provide suitable habitat for common frog, common toad and GCN.

8.8.189 The assessment will consider the loss of both aquatic and terrestrial habitat and the potential impact on amphibians.

Preliminary assessment

8.8.190 The Proposed Development is predicted to result in the direct loss of 67.2ha of habitat within the Turbine Area as detailed in **Table 8-15**. Terrestrial habitats within the Turbine Area are suitable to support an assemblage of amphibian species and include opportunities for refugia and hibernacula, such as rubble piles and fallen walls, and there is a wide distribution of watercourses and waterbodies, which provide aquatic habitat.

- 8.8.191 Baseline surveys have recorded one potential breeding pond for GCN (a positive eDNA sample was retrieved during surveys in 2024). Common frog and common toad have both been recorded during other surveys and are widespread throughout the Turbine Area. The potential breeding pond for GCN, along with other permanent ponds surveyed in 2024, will be subject to update surveys in 2026.
- 8.8.192 Construction is proposed within 500m of ponds which have been identified as potential GCN breeding ponds. Requirements for European Protected Species Mitigation licencing for GCN will be confirmed through the updated surveys proposed for 2026 recognising that District Level Licencing Approaches are not available in Calderdale (where the Turbine Area is located).
- 8.8.193 The Proposed Development retains significant areas of suitable habitat for amphibians within the Turbine Area. Habitat restoration and enhancement will be undertaken, to be defined within the Habitat Mitigation and Compensation Strategy and HMMP. This will include measures to mitigate and/or compensate for the loss of aquatic habitats and terrestrial habitat.
- 8.8.194 Direct impacts on amphibians during construction would be mitigated through the use of precautionary working measures to be defined in the proposed oCEMP (**Appendix 4-2**) as defined in **Section 8.6**.
- 8.8.195 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field survey to assess habitat suitability for amphibians and GCN will be undertaken in 2026. This will identify ponds and and/or terrestrial habitat which may be valuable for amphibians, including GCN. Loss of habitat within these areas will be minimised through design and construction methods as described in **paragraph 8.8.25**. It is also noted that DLL is used within Pendle (within which part of the Western Access Route is situated).
- 8.8.196 Taking into account the retention and enhancement of habitats and other proposed environmental measures, the direct loss of habitat would likely result in a low magnitude, permanent impact on amphibians and would result in no change to the conservation status of the populations which occur within the Proposed Development. However, an update survey of ponds for GCN and development of specific mitigation measures is required to provided confidence in the magnitude of impact, therefore a significant adverse effect cannot be ruled out at this stage.
- 8.8.197 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Indirect habitat loss and degradation

Approach

8.8.198 Construction will potentially cause indirect effects which contribute to overall loss and degradation of functional habitat that supports amphibians, impacting aquatic and terrestrial habitats. Approaches to assessment of these indirect effects are detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI. A combined approach to assessment defined under the assessment of effects on bats has been used to estimate the potential area of habitat impacted.

Preliminary assessment

8.8.199 Indirect effects could result in the loss of 80.8ha of habitats and degradation of up to 783ha within the Turbine Area as detailed in **Table 8-19**. Whilst not all habitats would be suitable for amphibians, temporary ponds and pools within blanket bog and wet heath habitats provide large areas of suitable aquatic habitat, whilst grassland and dry heath provide areas of suitable terrestrial habitat in close proximity. On a precautionary basis, it is assumed that common amphibian species could occur anywhere within the Turbine Area.

8.8.200 The CEMP includes onsite measures as described in **Section 8.6**, which are designed to avoid impacts relating to a range of potential effects, including changes in hydrology, air quality and recreational pressure. These are designed to maintain existing environmental conditions as much as possible and minimise the extent of indirect effects.

8.8.201 A Habitat Mitigation and Compensation Strategy is being developed to address the loss and degradation of habitats during construction and will include measures to address both permanent loss and degradation of habitats, reversing degradation where practicable.

8.8.202 Indirect habitat loss within the Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of the details with regard to construction approaches (in particular for the Export Cable). These areas will be subject to survey in 2026 alongside the refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.203 Taking into account the retention and enhancement of habitats and other proposed environmental measures, indirect loss of habitat is predicted to result in a low magnitude, permanent impact on amphibians, which would be unlikely to result in change to the conservation status of their respective populations. However, further survey and development of mitigation measures is required to provided confidence

in the magnitude of impact, therefore a significant adverse effect cannot be ruled out at this stage.

8.8.204 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Decommissioning Phase

8.8.205 Whilst the full extent of decommissioning activities has not yet been determined, the activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development but are expected to occur on a reduced scale with some infrastructure remaining in situ.

8.8.206 During the decommissioning phase, the following likely significant effects have been identified for amphibians:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.207 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of these documents will be developed once full details with respect to decommissioning are available.

8.8.208 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified for amphibians or to rule out significant adverse effects on amphibians during the decommissioning phase.

8.8.209 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Protected Species: Reptiles

Construction Phase

8.8.210 During the construction phase, the following likely significant effects have been identified for reptiles

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss and degradation.

Direct land take and land use change resulting in degradation and/ or loss of habitat

Approach

- 8.8.211 Direct loss of habitat has been calculated using the layout of the Proposed Development identifying locations where construction will occur.
- 8.8.212 The assessment will consider the total loss of habitat and the potential impact this could have on reptiles.

Preliminary assessment

- 8.8.213 The Proposed Development is predicted to result in the direct loss of 67.2ha of habitat within the Turbine Area, as detailed in **Table 8-15**. This includes a mosaic of peatland and upland habitats, which are suitable for a range of different reptile species. Baseline surveys have recorded one reptile species, common lizard, occurring within the Turbine Area. No other species have been recorded.
- 8.8.214 Whilst not all habitats within the Turbine Area are suitable for reptiles, the large areas of heathland (dry and wet), blanket bog and the various grassland habitats offer suitable foraging habitat for reptiles. Opportunities for refugia and hibernacula include manmade features such as rubble piles, fallen walls and grouse shooting butts. On a precautionary basis, it is assumed that reptile species could occur anywhere within the Turbine Area.
- 8.8.215 The Proposed Development retains significant areas of suitable habitat for reptiles within the Turbine Area. As part of environmental measures, habitat restoration and enhancement will be undertaken, to be defined within the Habitat Mitigation and Compensation Strategy and HMMP. This will include measures to mitigate and/or compensate for the loss of terrestrial habitat.
- 8.8.216 Direct impacts on reptiles during construction would be mitigated through the use of precautionary working measures to be defined in the oCEMP (**Appendix 4-2**) as defined in **Section 8.6**.
- 8.8.217 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field survey to assess habitat suitability for reptiles will be undertaken in 2026. This will identify terrestrial habitat and potential refugia, which may be valuable for reptiles. Loss of habitat within these areas will be minimised through design and construction methods as described in **paragraph 8.8.25**.
- 8.8.218 Taking into account the retention and enhancement of habitats and other proposed environmental measures, the direct, permanent loss of habitat is predicted to result in a low magnitude of impact on the local population of reptiles. However, further

survey and development of mitigation measures is required to provided confidence in the magnitude of impact, therefore a significant adverse effect cannot be ruled out at this stage.

8.8.219 Further development of mitigation and habitat compensation will be completed during 2026 and presented in the ES.

Indirect habitat loss and degradation

Approach

8.8.220 Construction will potentially cause indirect effects which contribute to overall loss and degradation of functional habitat that supports reptiles, impacting a range of terrestrial and wetland habitats. Approaches to assessment of these indirect effects are detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI. A combined approach to assessment defined under the assessment of effects on bats has been used to estimate the potential area of habitat impacted.

Preliminary assessment

8.8.221 Indirect effects could result in the loss of 80.8ha habitats and a further degradation of up to 783ha within the Turbine Area as detailed in **Table 8-19**, including areas suitable for use by reptiles.

8.8.222 The CEMP includes onsite measures described in **Section 8.6**, which are designed to avoid impacts relating to a range of potential effects, including changes in hydrology, air quality and recreational pressure. These are designed to maintain existing environmental conditions as much as possible and minimise the extent of indirect effects.

8.8.223 A Habitat Mitigation and Compensation Strategy is being developed to address the loss and degradation of habitats during construction and will include measures to address both permanent loss and degradation of habitats, reversing degradation where practicable.

8.8.224 Indirect habitat loss within Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of the details with regard to construction approaches (in particular for the Export Cable). These areas will be subject to survey in 2026 alongside the refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.225 Taking into account the retention and enhancement of habitats and other proposed environmental measures, indirect loss of habitat is predicted to result in a low magnitude, permanent impact on reptiles, which would be unlikely to result in a

change to the conservation status. Further work is required to develop mitigation measures to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.

8.8.226 Further development of mitigation and habitat compensation will be completed during 2026 and presented in the ES.

Decommissioning Phase

8.8.227 During the decommissioning phase, the following likely significant effects have been identified for reptiles:

- Direct land take and land use change resulting in degradation and/ or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.228 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.229 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified or to rule out significant adverse effects on reptiles during the decommissioning phase.

8.8.230 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Protected Species: Otter and Water Vole

Construction Phase

8.8.231 During the construction phase, the following likely significant effects have been identified for otter and water vole:

- Direct land take and land use change resulting in degradation and/or loss of habitat;
- Indirect habitat loss and degradation; and
- Construction activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates.

Direct land take and land use change resulting in degradation and/or loss of habitat

Approach

- 8.8.232 Direct loss of habitat has been calculated using the infrastructure layout for the Proposed Development identifying locations where construction will occur, in particular focusing where construction is proposed on or close to identified watercourses.
- 8.8.233 Riparian habitats are the most critical for these species. However, ponds, ditches and channels may provide suitable foraging or commuting habitat. Otter may also forage or commute more widely over terrestrial habitats.
- 8.8.234 The assessment will consider the total loss of riparian and terrestrial habitat and the potential impact this could have on otter and water vole.

Preliminary assessment

- 8.8.235 The Proposed Development is predicted to result in the direct loss of 67.2ha of terrestrial habitat within the Turbine Area as detailed in **Table 8-15**. This includes a mosaic of peatland and upland habitats which may be used by otter for commuting or foraging. 41 watercourse crossing are proposed and may include use of culverts as described under the assessment of Rivers.
- 8.8.236 Baseline surveys have recorded one otter holt, adjacent to Walshaw Dean Lower Reservoir, in an area that would not be impacted by habitat loss. Spraints have been more widely recorded indicating that otter potentially occur throughout the Turbine Area. No confirmed signs of water vole have been recorded. However, suitable habitat is widespread.
- 8.8.237 The Proposed Development retains significant areas of suitable habitat for both otter and water vole within the Turbine Area. As part of environmental measures habitat restoration and enhancement will be undertaken, to be defined within the Habitat Mitigation and Compensation Strategy and HMMP. This will include measures to mitigate and/or compensate for the loss of riparian, wetland and terrestrial habitats.
- 8.8.238 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field survey to assess habitat suitability for both otter and water vole will be undertaken in 2026. This will identify rivers and other aquatic habitats and also any terrestrial habitat, holts or burrows.
- 8.8.239 Loss of habitat within these areas will be minimised through design and construction methods as described in **paragraph 8.8.25**.

- 8.8.240 Taking into account the retention and enhancement of habitats and other proposed environmental measures, the direct loss of habitat is predicted to result in a low magnitude, permanent impact on otter and water vole, which would likely result in no change to the conservation status of the county and local populations which potentially occur within the Proposed Development. However, further survey and development of mitigation measures is required to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.
- 8.8.241 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Indirect habitat loss and degradation

Approach

- 8.8.242 Construction will potentially cause indirect effects which contribute to overall loss and degradation of functional habitat that supports otter and water vole, impacting a range of terrestrial, wetland and riparian habitats. The approaches to assessment of these indirect effects are detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI and also in the assessment of effects on Rivers. A combined approach to assessment defined under the assessment of effects on bats has been used to estimate the potential area of habitat impacted.

Preliminary assessment

- 8.8.243 Indirect effects could result in the loss of 80.8ha of habitats and degradation of up to 783ha within the Turbine Area, as detailed in **Table 8-19** (noting that this includes habitats adjacent to watercourses throughout the Turbine Area).
- 8.8.244 The CEMP includes onsite measures as described in **Section 8.6**, which are designed to avoid impacts relating to a range of potential effects including changes in hydrology, air quality and recreational pressure. These are designed to maintain existing environmental conditions as much as possible and minimise the extent of indirect effects.
- 8.8.245 A Habitat Mitigation and Compensation Strategy is being developed to address the loss and degradation of habitats during construction and will include measures to address both permanent loss and degradation of habitats, reversing degradation where practicable.
- 8.8.246 Indirect habitat loss within Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of details with regard to construction approaches (in particular for the Export Cable). These areas will be subject to survey in 2026 alongside the

refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.247 Taking into account the retention and enhancement of habitats and other proposed environmental measures, indirect loss of habitat is predicted to result in a low magnitude, permanent impact on otter and water vole, which would be unlikely to result in change to the conservation status of their respective populations. However, further survey and development of mitigation measures is required to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.

8.8.248 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Construction activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates

Approach

8.8.249 Visual and aural disturbance have the potential to disturb or displace otter and/or water vole which could result in additional physical effort required to forage or create holts/burrows in alternative locations, ultimately resulting in a reduction in associated survival rates, leading to potential decline of the local otter and/or water vole population.

8.8.250 Design iterations have sought to minimise infrastructure within 50m of mapped watercourses. However, the high density and frequency of riparian habitats within the Turbine Area means that multiple crossing points are required to facilitate access, resulting in a requirement for construction within and adjacent to watercourses

8.8.251 The assessment will consider the risk of disturbance from construction activities and environmental measures which may be required to avoid, minimise or mitigate disturbance risk for otter and water vole.

Preliminary assessment

8.8.252 Best practice guidance recommends that disturbance of otter and water vole refuges or resting locations needs to be considered where known locations are within 50m of activity⁷³.

⁷³ Chanin P (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.

- 8.8.253 Baseline surveys have only confirmed one active otter holt, located adjacent to Walshaw Dean Lower Reservoir and therefore >50m from any proposed construction activity.
- 8.8.254 Further surveys are due to be undertaken in 2026 for otter and water vole, focusing on areas where construction will occur within or adjacent to watercourses. This will include identification of any refuge or resting features and field signs to indicate regular use.
- 8.8.255 Construction will be subject to environmental measures described in Section 8.6 and will include specific measures to address the risk of disturbance to protected and notable species, including otter and water vole. In the event that refuges are identified within 500m of proposed construction activity, appropriate licencing for otter and/or water vole may be required from Natural England and would be applied for, where applicable.
- 8.8.256 The same approach to potential disturbance will be applied to construction within the Access Routes and Bradford West Cable Corridor, with potentially sensitive locations or habitats identified through survey in 2026.
- 8.8.257 Taking into account the amount of construction within and in proximity to watercourses and the proposed environmental measures, the temporary impact of disturbance on the local otter or water vole population is likely to be of low magnitude of impact. However, further survey of identified watercourse crossing locations is required to confirm the extent of potential conflicts with either species and therefore specific mitigation that may be required. Therefore, a significant adverse effect cannot be ruled out at this stage.
- 8.8.258 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Decommissioning Phase

- 8.8.259 Whilst the full extent of decommissioning activities has not yet been determined, the activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development but are expected to occur on a reduced scale with some infrastructure remaining in-situ.
- 8.8.260 During the decommissioning phase, the following likely significant effects have been identified for otter and water vole:
- Direct land take and land use change resulting in degradation and/or loss of habitat;
 - Indirect habitat loss or degradation; and

- Decommissioning activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates.

8.8.261 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.262 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified for or to rule out significant adverse effects on otter and/or water vole during the decommissioning phase.

8.8.263 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – CHEGD Fungi Assemblage

Construction Phase

8.8.264 During the construction phase, the following likely significant effects have been identified for CHEGD fungi:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss and degradation.

Direct land take and land use change resulting in degradation and/or loss of habitat

Approach

8.8.265 Direct loss of habitat has been calculated using the infrastructure layout for the Proposed Development identifying locations where construction will occur, in particular focusing where construction is proposed on or close to grassland habitats which are vital for CHEGD fungi.

8.8.266 The assessment will consider the total loss terrestrial habitat and the potential impact this could have on CHEGD fungi.

Preliminary assessment

8.8.267 Baseline surveys have recorded a diverse assemblage of CHEGD fungi in grassland habitats within the Turbine Area, in particular where sheep grazing maintains a relatively short sward.

- 8.8.268 The Proposed Development is predicted to result in the direct loss of 67.2ha of terrestrial habitat within the Turbine Area as detailed in **Table 8-15**. This includes approximately 20ha of grassland habitat of potential significance for the CHEGD fungi assemblage. However, the Proposed Development retains significant areas of suitable habitat for CHEGD fungi within the Turbine Area, including up to 300ha of grassland habitat. As part of environmental measures, habitat restoration and enhancement will be undertaken which will be defined within the Habitat Mitigation and Compensation Strategy and HMMP. This will include measures to mitigate and/or compensate for the loss of grassland habitat and the CHEGD fungi it supports.
- 8.8.269 Approaches to retain topsoil and translocate areas of CHEGD fungi habitat will be considered as part of construction but are a novel approach that would need to be discussed with relevant stakeholders. Examples of attempts to translocate grassland and fungi in other sites were hampered by delays between removal and re-planting of grassland turfs⁷⁴ and therefore careful planning to ensure the greatest chance of success would be required and rapid establishment of translocation locations. Successful translocation also would need to create environmental conditions as close to those being lost as possible, including consideration of hydrology, soil type and chemistry, topography and management/grazing regimes.
- 8.8.270 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field survey to assess habitat suitability for CHEGD fungi will be undertaken in 2026. Loss of habitat within these areas will be minimised through design and construction methods as described in **paragraph 8.8.25**.
- 8.8.271 Taking into account the retention and enhancement of habitats and other proposed environmental measures, the direct, permanent loss of habitat would result in a medium magnitude of impact on CHEGD fungi which could result in change to the conservation status of the CHEGD fungi populations which occur within the Proposed Development. Therefore, significant adverse effects cannot be ruled out at this stage.
- 8.8.272 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

⁷⁴ Griffith, G. W., and Detheridge, A.P. (2022). eDNA analysis of fungal populations in waxcap fungi from soil samples collected at Severalls Hospital site before and after sward translocation.

Indirect habitat loss and degradation

Approach

8.8.273 Construction will potentially cause indirect effects which contribute to overall loss and degradation of grassland habitat that supports the CHEGD fungi assemblage. Approaches to assessment of these indirect effects are detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI. A combined approach to assessment has been adopted for protected species and is defined under the assessment of effects on bats and will be used to estimate the area of potentially suitable habitat for CHEGD fungi being lost.

Preliminary assessment

8.8.274 Indirect effects could result in the loss of 9.4ha of grassland habitats and a further degradation of up to 94ha within the Turbine Area, as detailed in **Table 8-19**.

8.8.275 CHEGD fungi can be highly sensitive to changes in environmental conditions and are also susceptible to damage, being slow or impossible to recover once damaged⁷⁵. Fungi are especially sensitive to heightened nitrogen levels and therefore increased deposition as a result of emissions from vehicles and machinery may impact the assemblage. Changes to hydrology can also result in permanent loss of fungi through both drought or water logging.

8.8.276 Whilst degradation of habitat is predicted to be a temporary impact, the impact to fungi occurring within grassland habitats may become permanent if not avoided.

8.8.277 The CEMP includes onsite measures as described in Section 8.6, which are designed to avoid impacts relating to hydrology and air quality ensuring maintenance of existing environmental conditions as much as possible. However, given the potential sensitivity of CHEGD fungi to such changes, further measures will be identified to avoid impacts in areas of highest value for them.

8.8.278 Indirect habitat loss within the Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of details with regard to construction approaches (in particular for the export cable). These areas will be subject to survey in 2026 alongside the refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.279 Taking into account the retention and enhancement of habitats and other proposed environmental measures, indirect, permanent loss of habitat or habitat degradation may result in a low-medium magnitude of impact on CHEGD fungi, which could

⁷⁵ <https://reports.peakdistrict.gov.uk/ccva/docs/assessments/wildlife/fungi.html>

result in a change to the conservation status of the CHEGD fungi populations which occur within the Proposed Development. Therefore, significant adverse effects cannot be ruled out at this stage.

8.8.280 Further survey and assessment will be undertaken in 2026 and further mitigation identified, which will be presented in the ES.

Decommissioning Phase

8.8.281 Whilst the full extent of decommissioning activities has not yet been determined, the activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development, but are expected to occur on a reduced scale with some infrastructure remaining in situ.

8.8.282 During the decommissioning phase, the following likely significant effects have been identified for CHEGD fungi:

- Direct land take and land use change resulting in degradation and/ or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.283 All decommissioning activities will be subject to a DEMP which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in **Section 8.6**. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.284 In the absence of detailed information regarding decommissioning activities it is not possible to complete an assessment of the likely significant effects identified or to rule out significant effects on CHEGD fungi during the decommissioning phase.

8.8.285 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Invertebrate Assemblage (including White clawed crayfish)

Construction Phase

8.8.286 During the construction phase, the following likely significant effects have been identified for invertebrates:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss and degradation.

Direct land take and land use change resulting in degradation and/or loss of habitat

Approach

- 8.8.287 Direct loss of habitat has been calculated using the infrastructure layout for the Proposed Development identifying locations where construction will occur, in particular taking into account the anticipated construction activities within the Turbine Area where loss of habitat would be concentrated.
- 8.8.288 The assessment will consider the total loss of habitat and the potential impact this could have on invertebrates.

Preliminary assessment

- 8.8.289 Desk study information and baseline surveys have indicated that a diverse assemblage of invertebrates could occur in the mosaic of peatland and grassland habitats that is present within the Turbine Area. The overall area of habitat and the heterogeneity recorded (as described in under the assessment of effects on the South Pennine Moors SAC and SSSI) make it potentially valuable for invertebrates, offering a range of habitats and associated ecological niches which may support a diverse assemblage and density of invertebrates.
- 8.8.290 The Proposed Development is predicted to result in the direct loss of 67.2ha of terrestrial habitat within the Turbine Area, as detailed in **Table 8-15**. In addition, and of particular importance when considering potential impacts on white-clawed crayfish, 41 crossing points on watercourses are also proposed, which could impact watercourses through the installation of bridges or culverts (as described above).
- 8.8.291 The Proposed Development retains extensive areas of suitable habitat for invertebrates within the Turbine Area. As part of environmental measures, habitat restoration and enhancement will be undertaken, to be defined within the Habitat Mitigation and Compensation Strategy and HMMP. This will include measures to mitigate and/or compensate for the loss of all habitat types. Impacts on rivers and watercourses, which may be suitable for white-clawed crayfish, will also be mitigated through enhancement or restoration of watercourses.
- 8.8.292 Re-using and maintaining extracted soils through construction will be a key part of material management and offers the opportunity to maintain continuity of soil types and create habitats which are similar in nature to those being lost, re-providing habitats to the local invertebrate assemblage.
- 8.8.293 The Access Routes and Bradford West Cable Corridor incorporate an area of 233ha and cover a linear distance of approximately 20-21km. Field survey to assess habitat suitability for invertebrates will be undertaken in 2026. Loss of habitat within

these areas will be minimised through design and construction methods as described in **paragraph 8.8.25**.

- 8.8.294 Taking into account the retention and enhancement of habitats and other environmental measures, the direct, permanent loss of habitat is predicted to result in a low magnitude of impact on invertebrates which would be unlikely to result in change to the conservation status of the invertebrate assemblage. However, further survey and development of additional mitigation measures is required to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.
- 8.8.295 Further survey and assessment will be completed during 2026 and further mitigation identified, which will be presented in the ES.

Indirect habitat loss and degradation

Approach

- 8.8.296 Construction will potentially cause indirect effects which contribute to overall loss and degradation of habitats which support invertebrates. The approach to assessment of these indirect effects is detailed above, where they are considered individually for the South Pennine Moors SAC and SSSI and the assessment of effects for Rivers. A combined approach to assessment defined under the assessment of effects on Bats has been used to estimate the potential area of habitat impacted.

Preliminary assessment

- 8.8.297 Indirect effects could result in the loss of 80.8ha habitats and a further degradation of up to 783.2ha within the Turbine Area as detailed in **Table 8-19**.
- 8.8.298 The CEMP includes onsite measures described in **Section 8.6**, which are designed to avoid impacts relating to a range of potential effects including changes in hydrology, air quality and recreational pressure. These are designed to maintain existing environmental conditions as much as possible and minimise the extent of indirect effects.
- 8.8.299 A Habitat Mitigation and Compensation Strategy is being developed to address the loss and degradation of habitats during construction and will include measures to address both permanent loss and degradation of habitats, reversing degradation where practicable.
- 8.8.300 Indirect habitat loss within the Access Routes and the Bradford West Cable Corridor cannot be estimated at this stage in the absence of full habitat mapping and in the absence of details with regard to construction approaches (in particular for the export cable). These areas will be subject to survey in 2026 alongside the

refinement and finalisation of the methods and approaches for construction and installation. The assessment will be presented in the ES.

8.8.301 Taking into account the retention and enhancement of habitats and other environmental measures, indirect, permanent loss of habitat is predicted to result in a low magnitude of impact on invertebrates, which would be unlikely to result in a change to the conservation status of the invertebrate assemblage. However, further survey and development of additional mitigation measures is required to provide confidence in this assigned magnitude of impact and therefore, on a precautionary basis, a significant adverse effect cannot be ruled out at this stage.

8.8.302 Further survey and assessment will be completed during 2026 and further mitigation will be identified, which will be presented in the ES.

Decommissioning Phase

8.8.303 Whilst the full extent of decommissioning activities has not yet been determined, the activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development, but are expected to occur on a reduced scale with some infrastructure remaining in situ.

8.8.304 During the decommissioning phase, the following likely significant effects have been identified for invertebrates:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.305 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in Section 8.6. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.306 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified or to rule out significant effects on invertebrates during the decommissioning phase.

8.8.307 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Ecological Feature – Fish

Construction Phase

8.8.308 During the construction phase, the following likely significant effects have been identified for the fish assemblage:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss and degradation.

Direct land take and land use change resulting in degradation and/ or loss of habitat

Approach

8.8.309 Direct loss of habitat has been calculated using the infrastructure layout for the Proposed Development identifying locations where construction will occur, in particular taking into account the anticipated construction activities within the Turbine Area where loss of riparian habitat would be concentrated. The assessment will consider the total loss of habitat and the potential impact this could have on fish.

Preliminary assessment

8.8.310 Baseline surveys have identified a dense network of watercourses and headwaters within the Turbine Area which form tributaries of larger watercourses as described in the assessment of effects for Rivers. These offer potential to support a range of fish species. Surveys of watercourses have not been completed and desk study information is limited. Fish are therefore included on a precautionary basis and further baseline information will be gathered during 2026.

8.8.311 The Proposed Development overlaps with a large number of watercourses within the Turbine Area, Access Routes and Bradford West Cable Corridor. The layout of the Proposed Development includes 41 crossing points over water courses within the Turbine Area and a further 10-15 within the Access Routes (incorporating those with existing bridge crossings).

8.8.312 Surveys of all proposed crossing points will be undertaken during 2026 to ascertain the nature of the riparian habitats at each location and consider their potential value for fish. This information will be used in conjunction with hydrological modelling to identify the least damaging crossing point approach (where practicable). Measures to enhance river habitats will also be considered throughout the Proposed Development.

8.8.313 Whilst watercourses would be retained, modification to their alignment and installation of culverts could result in a direct/indirect permanent, medium magnitude of impact resulting in a significant effect on rivers and therefore significant effects cannot be ruled out at this stage. However, ongoing work to ensure the use of the least damaging crossing point design and the development of appropriate mitigation measures should ensure that the magnitude of the impact could be reduced such that it was considered not significant.

8.8.314 Further design and development alongside survey and assessment will occur during 2026 and further mitigation identified, which will be presented in the ES.

Indirect habitat loss and degradation

Approach

8.8.315 Construction will potentially cause indirect effects which contribute to overall loss and degradation of riparian habitats which support fish. The approach to assessment of these indirect effects is detailed above, where they are considered individually for the assessment of effects for Rivers.

Preliminary assessment

8.8.316 Pollution impacts as a result of construction could occur as described under the assessment of effects on the South Pennine Moors SAC and SSSI above. These activities would be subject to proposed environmental measures designed to avoid and minimise the risk of pollution.

8.8.317 Impacts on surface and ground water hydrology could result in changes to the volume and quality of water reaching watercourses. Further analysis to model and quantify water volume and quality changes will be completed as part of the ES and used to assess the potential impacts on fish, should suitable habitat be present.

8.8.318 Habitat management and restoration measures will be developed under the HMMP to minimise indirect habitat loss and degradation and will include specific enhancement measures relating to watercourses which will benefit fish populations.

8.8.319 In addition, the proposed drainage strategy should ensure that surface run off rates and the quality of water are maintained at current levels. A full drainage strategy will be developed and the key aspects/principles presented as part of the ES.

8.8.320 In the absence of this information, it is not possible to complete an assessment of this effect or to rule out significant effects on fish during the construction phase.

8.8.321 The magnitude and significance of this effect during construction will be assessed in the ES.

Operational and Maintenance Phase

8.8.322 During the operational and maintenance phase, the following likely significant effects have been identified for fish:

- Effects of electro-magnetic fields and heat produced by transmission cables beneath watercourses.

8.8.323 All cable installation and routing are subject to further design and confirmation of construction techniques. In the absence of this information, it is not possible to complete an assessment of this effect or to rule out significant effects on fish during the operational and maintenance phase.

8.8.324 The magnitude and significance of this effect during operation will be assessed in the ES.

Decommissioning Phase

8.8.325 Whilst the full extent of decommissioning activities has not yet been determined, the activities and likely significant effects are broadly similar to those predicted to occur during the construction phase of the Proposed Development but are expected to occur on a reduced scale with some infrastructure remaining in situ.

8.8.326 During the decommissioning phase, the following likely significant effects have been identified for fish:

- Direct land take and land use change resulting in degradation and/or loss of habitat; and
- Indirect habitat loss or degradation.

8.8.327 All decommissioning activities will be subject to a DEMP and Habitat Restoration Plan which will include specific measures to avoid, minimise and mitigate the risk of habitat loss or degradation and aim to enhance restored habitats as detailed in Section 8.6. However, the full scope of this document will be developed once full details with respect to decommissioning are available.

8.8.328 In the absence of detailed information regarding decommissioning activities, it is not possible to complete an assessment of the likely significant effects identified or to rule out significant effects on fish during the decommissioning phase.

8.8.329 The magnitude and significance of all impacts at decommissioning will be assessed in the ES.

Additional Mitigation

- 8.8.330 Given the sensitive nature of the habitats, and the species/species groups they support, additional mitigation will be required to address effects relating to construction, operational and maintenance and decommissioning phases of the Proposed Development.
- 8.8.331 Development of an outline Habitat Mitigation and Compensation Strategy is ongoing and is required to address the direct loss of habitat as a result of the Proposed Development and also any indirect losses which may occur through habitat degradation. This will be developed for submission as part of the ES. Habitat mitigation will also be supported through BNG requirements, further design and confirmation of the approach is required prior to submission of the ES. This will be supported by a HMMP, oLEMP and oOEMP as described in **Section 8.6**. Following decommissioning, a Habitat Restoration Plan will also be developed designed to restore and enhance habitats,
- 8.8.332 The mitigation will also need to consider the designated features of the South Pennine Moors SPA, as described in **Chapter 9: Ornithology**.
- 8.8.333 Additional measures to address impacts on species or species groups will be described in a PSMMS. This will be subject to ongoing surveys to be completed in 2026 and will be developed for submission as part of the ES.

Residual Effects

- 8.8.334 The loss of habitat within the South Pennine Moors SAC and SSSI cannot be mitigated/compensated fully within the Proposed Development and requires delivery of compensatory measures offsite. To address residual effects, a package of compensatory measures will be delivered and include complex habitat restoration and creation of a number of peatland habitats. The compensation will also consider the designated feature of the South Pennine Moors SPA, as described in **Chapter 9: Ornithology**.

Next Steps

- 8.8.335 Further survey is required to ensure that a valid and robust baseline is available to enable full assessment of effects on biodiversity as part of the ES. Further surveys to be undertaken are set out in **Table 8-11**. In particular, surveys of the Access Routes and Bradford West Cable Corridor are required to confirm the nature of the habitats and identify any further protected species or habitat surveys required.
- 8.8.336 Ongoing work to develop mitigation and compensation approaches is critical to assessment for biodiversity.

8.8.337 Further consultation is required with relevant consultees and stakeholders to discuss proposed approaches to assessment and mitigation of likely significant effects. Further stakeholder engagement will occur between submission of PEIR and the ES.

8.9 Conclusions

8.9.1 **Table 8.21** summarises the Preliminary Assessment for each receptor scoped in for assessment. This follows the approach described in **Section 8.4** and includes consideration of the environmental measures described in **Section 8.6** as additional mitigation measures are being developed/defined.

Table 8-21: Summary of Preliminary Assessment of Effects

Receptor	Phase / Effect	Preliminary Assessment Conclusions
<p>South Pennine Moors SAC and SSSI</p> <p>Priority Habitats (blanket bog, dry heath, wet heath etc.)</p>	Construction Phase	
	<p>Direct land take and land use change resulting in degradation and/or loss of habitat</p>	<p>Significant Effects Cannot be Ruled Out High magnitude of impact currently predicted due to loss of Annex I habitats and designated features of SAC and SSSI. Additional mitigation and compensation required to reduce magnitude of impact.</p>
	<p>Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat (including irreplaceable habitats)</p>	<p>Significant Effects Cannot be Ruled Out Medium magnitude of impact currently predicted due to loss of Annex I habitats and designated features of SAC and SSSI. Additional mitigation and compensation required to reduce magnitude of impact.</p>
	<p>The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support</p>	<p>Not Significant Low magnitude of impact predicted. Environmental measures reduce risk of impact.</p>
	<p>Dust deposition resulting in degradation and/or loss of habitat (including irreplaceable habitats)</p>	<p>Not Significant Low magnitude of impact predicted. Environmental measures reduce risk of impact.</p>
	<p>Changes in air quality resulting in degradation and/or loss of habitat</p>	<p>Significant Effects Cannot be Ruled Out Magnitude of impact currently not predicted. Additional construction information required. Therefore, a significant effect cannot be ruled out.</p>

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Changes in levels of recreational pressure resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Magnitude of impact currently not predicted. Additional access management detail required. Therefore, a significant effect cannot be ruled out.</p>
	Operational and Maintenance Phase	
	Changes in levels of recreational pressure resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Magnitude of impact currently not predicted. Additional access management detail required. Therefore, a significant effect cannot be ruled out.</p>
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
	Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat	
	The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support	
Dust deposition resulting in degradation and/or loss of habitat		

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat	
Local Non-Statutory Designated Sites	Construction Phase	
	Direct land take and land use change resulting in both permanent and temporary degradation and/or loss of habitat	Not Significant Low magnitude of impact due to scale of loss.
	The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support	Not Significant Proposed environmental measures should ensure magnitude of impact is negligible.
	Changes in air quality as a result of vehicle emissions resulting in degradation and/or loss of habitat	Not Significant Proposed environmental measures should ensure magnitude of impact is low.
	Decommissioning Phase	
The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support	Not Significant Proposed environmental measures should ensure magnitude of impact is very low.	
	Construction Phase	

Receptor	Phase / Effect	Preliminary Assessment Conclusions
Priority Habitats: Rivers	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Medium magnitude of impact predicted on a precautionary basis. Further survey and design work required to reduce magnitude of impact.
	Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat	Significant Effects Cannot be ruled Out Further survey and design work required to assess the magnitude of impact. Significant effect cannot be ruled out at this stage.
	The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support	Not Significant Proposed environmental measures should ensure magnitude of impact is negligible.
	Decommissioning Phase	
	The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species they support	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
Protected Species: Bats	Construction Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Indirect habitat loss and degradation	Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Operational and Maintenance Phase	
	Collision with turbine blades resulting in injury or death	Significant Effects Cannot be Ruled Out Further work to confirm magnitude of collision risk. Likely to be low magnitude of impact but significant effect not ruled out at this stage.
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
	Indirect habitat loss or degradation	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
Protected Species: Amphibians	Construction Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude

Receptor	Phase / Effect	Preliminary Assessment Conclusions
		of impact with mitigation but significant effect not ruled out at this stage.
	Indirect habitat loss and degradation	Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
	Indirect habitat loss or degradation	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
Protected Species: Reptiles	Construction Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Indirect habitat loss and degradation	Significant Effects Cannot be Ruled Out

Receptor	Phase / Effect	Preliminary Assessment Conclusions
		Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/ or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
Indirect habitat loss or degradation	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>	
Protected Species: Otter and Water Vole	Construction Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.</p>
	Indirect habitat loss and degradation	<p>Significant Effects Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.</p>

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Construction activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates	<p>Significant Effects Cannot be Ruled Out Further work to confirm potential conflicts at crossing points and requirements for mitigation or licencing. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.</p>
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
	Indirect habitat loss or degradation	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
	Decommissioning activity resulting in disturbance of fauna resulting in displacement or a reduction in productivity/survival rates	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
CHEGD Fungi Assemblage	Construction Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Medium magnitude of impact identified. Further work to confirm mitigation and habitat management proposals to address habitat loss.</p>
	Indirect habitat loss and degradation	<p>Significant Effects Cannot be Ruled Out</p>

Receptor	Phase / Effect	Preliminary Assessment Conclusions
		Low-Medium magnitude of impact identified. Further work to confirm mitigation and habitat management proposals to address habitat loss.
	Decommissioning Phase	
	Direct land take and land use change resulting in degradation and/or loss of habitat	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
	Indirect habitat loss or degradation	Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.
Invertebrates Assemblage (including White clawed crayfish)	Construction Phase	
	Direct land take and land use change resulting in degradation and/ or loss of habitat	Significant Effect Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Indirect habitat loss and degradation	Significant Effect Cannot be Ruled Out Further work to confirm mitigation and habitat management proposals to address habitat loss. Likely to be low magnitude of impact with mitigation but significant effect not ruled out at this stage.
	Decommissioning Phase	

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Direct land take and land use change resulting in degradation and/ or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
	Indirect habitat loss or degradation	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
Fish Assemblage	Construction Phase	
	Direct land take and land use change resulting in degradation and/ or loss of habitat	<p>Significant Effect Cannot be Ruled Out Medium magnitude of impact predicted on a precautionary basis. Further survey and design work required to reduce magnitude of impact.</p>
	Indirect habitat loss and degradation	<p>Significant Effect Cannot be Ruled Out Further survey and design work required to assess the magnitude of impact. Significant effect cannot be ruled out at this stage.</p>
	Operational and Maintenance Phase	
	Effects of electro-magnetic fields and heat produced by transmission cables beneath watercourses	<p>Significant Effect Cannot be Ruled Out Further survey and design work required to assess the magnitude of impact. Significant effect cannot be ruled out at this stage.</p>
Decommissioning Phase		

Receptor	Phase / Effect	Preliminary Assessment Conclusions
	Direct land take and land use change resulting in degradation and/or loss of habitat	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>
	Indirect habitat loss or degradation	<p>Significant Effects Cannot be Ruled Out Further detail needed to assess all decommissioning effects. Magnitude of impact cannot be estimated, therefore all potentially significant. Effects will be presented in the ES.</p>

