6. Ecology

6.1 Introduction

6.1.1 This Chapter of the Revised EIA Report evaluates the potential effects associated with the construction, operation and decommissioning of the Proposed Development on non-avian ecology including designated sites, terrestrial and aquatic habitats, and protected species.

6.1.2 The assessment has been carried out by MacArthur Green (now SLR Consulting Limited[1]). All staff contributing to this chapter have professional experience in ecological survey and impact assessment (see Revised Chapter 1 for team details).

6.1.3 The specific objectives of the chapter are to:

- describe the ecology baseline;
- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the potential effects, including direct, indirect and cumulative effects;
- describe the mitigation measures proposed to address likely significant effects; and
- assess the residual effects remaining following the implementation of mitigation.

6.1.4 This chapter is supported by figures (**Revised Volume 2a**) and technical appendices (**Revised Volume 3**).

- **Figure 6.1:** Ecological Designated Sites and Ancient Woodland within 5 km.
- **Figure 6.2:** Carbon and Peatland Map 2016 within 1 km.
- **Figure 6.3:** National Vegetation Classification Survey Area and Survey Results.
- **Figure 6.4:** Potential Groundwater Dependent Terrestrial Ecosystems Survey Area and Survey Results.
- **Figures 6.5:** Protected Species Survey Area and Survey Results.
- **Figure 6.6:** Bat Survey Area, Anabat Locations and Preliminary Bat Roost Assessment Results.
- **Figure 6.7:** Monthly Bat Site Activity 2020 - Common Pipistrelle.
- **Figure 6.8:** Monthly Bat Site Activity 2020 - Soprano Pipistrelle.
- **Figure 6.9:** Monthly Bat Site Activity 2020 - Nyctalus spp.
- **Figure 6.10:** Monthly Bat Site Activity 2021 - Common Pipistrelle.
- **Figure 6.11:** Monthly Bat Site Activity 2021 - Soprano Pipistrelle.
- **Figure 6.12:** Monthly Bat Site Activity 2021 - Nyctalus spp.

[1] Following acquisition, MacArthur Green became part of SLR Consulting Limited on 1 September 2025.

- **Figure 6.13:** Monthly Bat Site Activity 2025 - Common Pipistrelle.
- **Figure 6.14:** Monthly Bat Site Activity 2025 - Soprano Pipistrelle.
- **Figure 6.15:** Monthly Bat Site Activity 2025 – Nathusius' Pipistrelle.
- **Figure 6.16:** Monthly Bat Site Activity 2025 - Nyctalus spp.
- **Figure 6.17:** Electrofishing Locations and Survey Results.
- **Figure 6.18:** Outline Biodiversity Enhancement and Management Plan Area.
- **Technical Appendix 6.1:** National Vegetation Classification & Habitats Survey Report.
- **Technical Appendix 6.2:** Protected Species Survey Report.
- **Technical Appendix 6.3:** Bat Survey Report.
- **Technical Appendix 6.4:** Fisheries Report.
- **Technical Appendix 6.5:** Species Protection Plan.
- **Technical Appendix 6.6:** Outline Biodiversity Enhancement Management Plan.
- **Technical Appendix 6.7:** Assessment Methodology.

6.1.5 Figures and Technical Appendices are referenced in the text where relevant.

6.1.6 Two pieces of sensitive ecology information are included in EIA Report Volume 5: Confidential Information. These include:

- **Confidential Appendix 6.2C:** Protected Species Survey Report Confidential Annex D, and
- **Figure 6.5C:** Protected Species Survey Area and Survey Results - Confidential.

6.1.7 These figures will not be made publicly available due to the sensitive information they contain pertaining to the locations of protected species. They will, however, be issued to the Scottish Ministers, NatureScot and East Ayrshire Council to inform their own appraisals of the Proposed Development.

6.2 Legislation, Policy & Guidance

Legislation

6.2.1 Relevant legislation and guidance documents have been reviewed and considered as part of this assessment. Of particular relevance are:

- European Union Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ('Habitats Directive');
- European Union Council Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy ('Water Framework Directive');
- Environmental Impact Assessment Directive 85/337/EEC, as amended ('EIA Directive') (as subsequently codified by Directive 2011/92/EU, as amended by Directive 2014/52/EU);

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (Scottish Government, 2017,c);
- The Conservation of Habitats and Species Regulations 2017 apply in Scotland in relation to reserved matters, including consents granted under Sections 36 and 37 of the Electricity Act 1989 ;
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended)[2];
- The Electricity Act 1989;
- The Water Environment and Water Services (Scotland) Act 2003 (WEWS);
- Nature Conservation (Scotland) Act 2004 (as amended);
- Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003;
- Wildlife and Countryside Act 1981 (as amended); and
- Protection of Badgers Act 1992.

Planning Policy

6.2.2 The Planning Statement associated with this Section 36 application sets out the planning policy framework that is relevant to the EIA. This section considers the relevant aspects of National Planning Framework 4; NPF4 (Scottish Government, 2023a), Planning Advice Notes, the East Ayrshire Local Development Plan (East Ayrshire Council, 2024) and other relevant guidance. Of relevance to the assessment presented within this chapter, regard has been had to the following policies:

- Scottish Government (2023a) National Planning Framework 4;
- East Ayrshire Local Development Plan (Adopted LDP2) (East Ayrshire Council, 2024);
- Joint Nature Conservation Committee (JNCC) and Department for Environment, Food and Rural Affairs (DEFRA) (2012). UK Post-2010 Biodiversity Framework;
- Scottish Executive (2004). Scottish Biodiversity Strategy: It's in Your Hands;
- Scottish Government (2000). Planning Advice Note (PAN)60: Planning for Natural Heritage;
- Draft Planning Guidance: Biodiversity (November 2023);
- Scottish Government (2013) Planning Advice Note 1/2013-Environmental Impact Assessment;
- Scottish Government (2022a). Onshore Wind Policy Statement;
- Scottish Government (2022b) Scottish Biodiversity Strategy to 2045. Tackling the Nature Emergency in Scotland; and

[2] The Conservation of Habitats and Species Regulations 2017 and The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) will hereafter collectively be referred to as the 'Habitats Regulations'.

- Scottish Government (2016) Draft Peatland and Energy Policy Statement.

Guidance

6.2.3 Cognisance has been taken of the following best practice guidelines and guidance:

- Chartered Institute for Ecology and Environmental Management (CIEEM) (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3.;
- Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition);
- Collins, J. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition);
- East Ayrshire Council Biodiversity Duty Report 2020 (East Ayrshire Council, 2020);
- European Commission (2020) Guidance document on wind energy developments and EU nature legislation;
- JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012) UK Post-2010 Biodiversity Framework;
- Joint Nature Conservation Committee (JNCC) (2013) Guidelines for selection of biological Sites of Special Scientific Interest (SSSI);
- NatureScot, Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT) (2019, with minor updates 2021). Bats and Onshore Wind Turbines – Survey, Assessment and Mitigation;
- NatureScot (2020) Scottish Biodiversity List;
- NatureScot (2024a) General Pre-application and Scoping Advice to Developers of Onshore Wind Farms;
- NatureScot (2022) General pre-application and scoping advice for solar farms.
- Scottish Badgers (2018) Surveying for Badgers: Good Practice Guidelines. Version 1;
- Scottish Executive (2000) Nature conservation: implementation in Scotland of EC Directives on the conservation of natural habitats and of wild flora and fauna and the conservation of wild birds ('The Habitats and Birds Directives');
- Scottish Environment Protection Agency (SEPA) (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems:
- Scottish Government (2001). European Protected Species, Development Sites and the Planning Systems: Interim guidance for local authorities on licensing arrangements;
- Scottish Government (2006). European Protected Species – terms of guidance: Chief Planner letter;
- Scottish Government (2017a) Planning Advice Note 1/2013 - Environmental Impact Assessment, Revision 1.0;

- Scottish Government (2017b) Planning Circular 1/2017: Guidance on The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Scottish Government (2020) Scottish biodiversity strategy post-2020: statement of intent;
- SNH (2015) Scotland's National Peatland Plan;
- SNH (2016a) Planning for Development: What to consider and include in deer assessments and management at development sites (Version 2);
- SNH (2016b) Planning for Development: What to consider and include in Habitat Management Plans. Version 2;
- NatureScot (2023). Advising on carbon-rich soils, deep peat and priority peatland habitat in development management;
- SNH (2018) Environmental Impact Assessment Handbook – Version 5: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland;
- Scottish Renewables, SNH, SEPA, Forestry Commission (Scotland), HES, AEECoW (2019) Good Practice During Windfarm Construction (4th Edition); and
- Scottish Government (2021). Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines.

6.3 Consultation

6.3.1 **Table 6-1** below summarises who has been consulted and what information has been provided.

Table 6-1: Consultation Responses

Consultee	Consultation Response	Applicant Action
East Ayrshire Council Scoping 22/05/2024	With regards to any Biodiversity Enhancement and Management Plan, this should be separate to more general habitat management measures proposed as compensation/mitigation for the impacts of the proposed development, as the biodiversity enhancement expected through Policy 3 of NPF4 is noted as going beyond mitigation of impacts. So, to ensure there is a clear distinction between what is required in terms of mitigation of impacts as a result of the proposed development, and what is to be implemented to deliver significant biodiversity enhancement, the elements will require to be discussed separately and not amalgamated into a single document or set of proposals.	An Outline Biodiversity Enhancement Management Plan (OBEMP) has been provided in **Technical Appendix 6.6**.

Consultee	Consultation Response	Applicant Action
	Local Nature Conservation Sites (LNCS) should be assessed alongside other ecological designations such as Site of Special Scientific Interest (SSSIs). There are a number of LNCS within relatively close proximity to the application site including one which borders the southern boundary of the site (Benquhat Hill LNCS). Impacts on Ancient Woodland on the boundaries of the site may also need to be assessed depending on any infrastructure proposed in close proximity to such areas or depending on where access is to be taken into the site.	LNCS and Ancient Woodland are discussed in Section 6.5. The decision to scope these features out of the assessment is detailed in **Section 6.6**.
	Consultation should also be undertaken with the River Doon Salmon Fisheries Board and Ayrshire Rivers Trust, in addition to Marine Scotland Science to agree on the appropriate methodologies and scope of assessment in terms of fish and other species. The Planning Authority would suggest the Applicant ensure any requirements and advice from NatureScot, SEPA, RSPB and the Scottish Wildlife Trust be taken into account to inform the scope of the assessment, including any cumulative impact assessment, of such matters for reporting within the EIAR.	Fisheries surveys were undertaken by Ayrshire Rivers Trust (ART), who work in accordance with Marine Science Scotland (MSS). The results of the fisheries surveys are detailed in **Technical Appendix 6.4**, with further discussion in **Section 6.6**, where the decision to scope out aquatic habitats and species is explained.
Fisheries Management Scotland	The proposed development straddles the catchments relating to the Nith DSFB, Doon DSFB, Ayrshire Rivers Trust and Nith Catchment Fisheries Trust. It is important that the proposals are conducted in full consultation with the trust (see link to FMS member DSFBs and Trusts below). We have also copied this response to these organisations. Due to the potential for such developments to impact on migratory fish species and the fisheries they support, FMS have developed, in conjunction with Marine Scotland Science, advice for DSFBs and Trusts in dealing with planning applications. We would strongly recommend that these guidelines are fully considered throughout the planning, construction and monitoring phases of the proposed development.	Fisheries surveys were undertaken by ART, who work in accordance with MSS. The results of the fisheries surveys are detailed in **Technical Appendix 6.4,** with further discussion in **Section 6.6** where the decision to scope aquatic habitats and species is explained.

Consultee	Consultation Response	Applicant Action
NatureScot Scoping 06/06/2024	2.1 We note that Phase 1 peat probing has been undertaken in 2020 for some parts of the site, and the remaining areas will be assessed in 2024. Our detailed peatland advice for applicants is contained in our revised guidance on Advising on peatland, carbon-rich soils and priority peatland habitats in development management (November 2023). Our onshore wind pre-application guidance (February 2024) also highlights key guidance in relation to peatland assessment, recommendations on peatland restoration, and the level of information to be submitted with the application.	Much of the Site is forested and as a result, peat condition will be poor (based on uniform surface habitat present). **Table 6-7** presents further detail on the quality of peatland habitats.
	4.1 We note bat surveys were undertaken in 2020 and 2021; therefore, the survey information is not sufficiently up to date. Unless it is clearly evident that there has been no substantive change in number, distribution or activity of bats since the original survey was undertaken, we advise further survey is required. 4.3 We note that pre-construction surveys are proposed in section 6.4.2 (Embedded Mitigation). We welcome this approach but advise that our current guidance is followed.	Further consultation was undertaken with NatureScot on this matter, with provision of further data to support MacArthur Green's stance on the validity of data; NatureScot's response on 11 December 2024 confirmed that a complete resurvey of the entire Site was not required, however further surveys were completed in 2025 to cover the gaps created by the updated design. A programme of post-construction monitoring is proposed for a minimum of three years (see **Section 6.11**).
	5.2 We would welcome the inclusion of an Outline Habitat Management Plan (OHMP) in the proposed EIAR. We recommend the OHMP addresses both compensation and enhancement requirements, in line with NPF4 Policy 3(b) to provide for positive effects for biodiversity. Our guidance on what to include in a HMP can be accessed from our website.	An OBEMP is provided in **Technical Appendix 6.6**.
	Q7.1 Are there any other relevant consultees who should be contacted, or other sources of information that should be referenced with respect to the ecological assessment? A7.1 No.	No further action.
	Q7.2 Do consultees agree that, subject to further information coming to light from the field surveys and desk study, the scope of IEFs to be included in the assessment is appropriate?	No further action.

Consultee	Consultation Response	Applicant Action
	A7.2 Yes.	
	Q7.3 Do consultees agree that there is no potential for connectivity, or potentially significant effects, between the Proposed Development and the ecological designated sites present within 5 km of the site, and that consequently effects related to all designated sites can be scoped out of the assessment? A7.3 No, see answer A6.4. (Notified features regarding Ailsa Craig and Solway Firth SPAs, and Bogton Loch SSSI need to be considered as part of this assessment. See our advice above for detailed information.)	**Section 6.6** includes discussion on the decision to scope Bogton Loch SSSI out of the assessment.
	Q7.4 Do consultees agree that the desk study and the field surveys (undertaken to date and update surveys planned for 2024) will provide sufficient data to inform a robust impact assessment? A7.4 Yes.	No further action.
	Q7.5 Do consultees agree that static bat data collected to date (in 2017, 2018, 2020 and 2021) is sufficient to inform the assessment and that no further bat surveys are required? A7.5 No, the survey data is not sufficiently up to date. See our advice above in section 4.1. The level of bat survey needed can be found in our standing advice, section 'Carrying out a bat survey'.	See action against point 4.1 above.
	Q7.6 Do consultees agree that the methodology and scope of the assessment is appropriate? A7.6 Yes.	No further action.
	Q7.7 Do consultees believe that there are any further species, or any designated sites, which need to be considered in the assessment? A7.7 No.	No further action.
NatureScot EIA Consultation (31 July 2025)	Bat - Mitigation proposals We are generally in agreement with the range of mitigation proposed by the applicant. We therefore advise that any consent given for this proposal should reflect the requirement to: Retain an open buffer between turbines and surrounding forestry. The extent of the proposed 50m	As part of the design mitigation, there would be minimum 50 m buffer from turbine blade tips to important edge habitats for bats (woodland and watercourses). As part of the embedded mitigation, there would be turbine curtailment during operation. Bat monitoring would comply with a detailed Bat Mitigation and Monitoring Plan (BMMP) or similar, which would also include that if the annual

Consultee	Consultation Response	Applicant Action
	buffer should be re-assessed once the exact turbine model is known to ensure that the buffer continues to meet best practice requirements. 'Feather' all turbines to reduce rotation speed whilst idling during the active bat season from the outset of the operation of the development. A detailed post-construction bat monitoring plan should be submitted to and approved by the planning authority prior to development commencing. The plan should have the aims of determining whether the above mitigation measures are being effective and to inform any additional, or altered, mitigation requirements (including changes to the turbine curtailment regime) that may be required. The requirement for any altered or additional mitigation identified as being necessary by the monitoring to be implemented should be reflected in any consent given. The plan should set out the proposed programme of post-construction monitoring, which should cover both acoustic monitoring and checking for carcasses using a method and sampling locations that will allow direct comparisons to be made with the results of surveys carried out pre-construction. The monitoring methodology should consider the guidance given in Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation or other such updated guidance as may be relevant. A minimum of 3 years post-construction monitoring should be carried out.	monitoring concludes the mitigation is not enough then amendments to the curtailment/further mitigation would be proposed.
Ayrshire and Arran Bat Group EIA Consultation (09 July 2025)	Acknowledge that the following standard mitigation has been proposed: Turbines will have a 50 m separation distance between blade tips and high-value bat habitats, such as woodland and watercourses/ wetland features. Turbine blade Feathering. Bat casualties at wind farms can be reduced by pitching the blades out of the wind ("feathering") to reduce rotation speeds below 2 rpm while idling. As this option does not result in any loss of output, as best practice, it	As part of the design mitigation, there would be minimum 50 m buffer from turbine blade tips to important edge habitats for bats (woodland and watercourses). As part of the embedded mitigation, there would be turbine curtailment during operation. Bat monitoring would comply with a detailed Bat Mitigation and Monitoring Plan (BMMP) or similar, which would also include that if the annual monitoring concludes the mitigation is not enough then amendments to the curtailment/further mitigation would be proposed.

Consultee	Consultation Response	Applicant Action
	is recommended to feather all turbines. Request that the following additional mitigation is implemented: We require that seasonal turbine curtailment is undertaken for all turbines during the weather conditions responsible for the overriding majority of recorded bat activity to further reduce operational bat casualties. We require that post construction monitoring (PCM) is undertaken to ensure that this proposed mitigation is fit for purpose. PCM should be carried out for a minimum of three years (in line with NatureScot guidance) with monitoring reports provided to the Council on a yearly basis to evaluate mitigation effectiveness.	
Energy Consents Unit (28 June 2024)	Enhancement With regards to any Biodiversity Enhancement and Management Plan, this should be separate to more general habitat management measures proposed as compensation/mitigation for the impacts of the proposed development, as the biodiversity enhancement expected through Policy 3 of NPF4 is noted as going beyond mitigation of impacts. So, to ensure there is a clear distinction between what is required in terms of mitigation of impacts as a result of the proposed development, and what is to be implemented to deliver significant biodiversity enhancement, the elements will require to be discussed separately and not amalgamated into a single document or set of proposals.	An OBEMP is included as **Technical Appendix 6.6**, addressing both compensation and enhancement requirements. The document will clearly define what is mitigation and what is enhancement.
	Designated Sites & Ancient Woodland LNCS should be assessed alongside other ecological designations such as SSSIs. There are a number of LNCS within relatively close proximity to the application site including one which borders the southern boundary of the site (Benquhat Hill LNCS). Impacts on Ancient Woodland on the boundaries of the site may also need to be assessed depending on any infrastructure proposed in close proximity to such areas or depending	LNCS and Ancient Woodland are discussed in **Section 6.5**. The decision to scope these features out of the assessment is detailed in **Section 6.6**.

Consultee	Consultation Response	Applicant Action
	on where access is to be taken into the site.	
	Fisheries Consultation should also be undertaken with the River Doon Salmon Fisheries Board and Ayrshire Rivers Trust, in addition to Marine Scotland Science to agree on the appropriate methodologies and scope of assessment in terms of fish and other species. The Planning Authority would suggest the Applicant ensure any requirements and advice from NatureScot, SEPA, RSPB and the Scottish Wildlife Trust be taken into account to inform the scope of the assessment, including any cumulative impact assessment, of such matters for reporting within the EIAR.	Fisheries surveys were undertaken by ART, who work in accordance with MSS. The results of the fisheries surveys are detailed in **Technical Appendix 6.4**, with further discussion in **Section 6.6** where the decision to scope aquatic habitats and species is explained.

6.4 Assessment Methods & Significance Criteria

Survey Area / Study Area

6.4.1 The area within which the desk-based research and field surveys were undertaken varies depending on the ecological features and sensitivity to impacts. Details of extents are described in the relevant sections in the Baseline Section of this Chapter below and associated Technical Appendices and their respective Figures.

6.4.2 Hereafter in this Chapter, the areas covered by field surveys are termed the 'Survey Area' and these same areas which are considered as part of the assessment process are then collectively referred to as the 'Study Area' (N.B. the Study Area generally equates to the Site and comprises the whole of the red line boundary, including the turbine array, battery energy storage system (BESS), substation, and access tracks, except for designated sites where the study area is a 5 km distance band around the Site (Figure 6.1).

Desk Study

6.4.3 A desk-based assessment was undertaken to collate existing available ecological information in relation to the Site and surrounding environment. This comprised of a search of available online datasets, desk-based assessment resources and consultation with other organisations.

6.4.4 The following data sources were considered as part of the determination of scope of baseline surveys and subsequent assessment:

- National Biodiversity Network (NBN) Atlas Scotland (NBN, 2025) for protected or notable species records within 5 km of the Site, extended to 10 km for records of bat species, from the last 15 years (i.e., 2010 and onwards);

- NatureScot Sitelink (NatureScot, 2025a) for designated site information within 5 km of the Site;
- Ancient Woodland Inventory (AWI) Scotland (NatureScot 2024b for ancient woodland sites within 5 km of the Site;
- Scotland's Environment Map (Scottish Government, 2025) for the Carbon and Peatland Map (2016);
- East Ayrshire Council Biodiversity Duty Report 2020 (East Ayrshire Council, 2020);
- The British Deer Society (2025) for deer distribution survey results;
- Saving Scotland's Red Squirrels (2024) for evidence of red squirrel from within 5 km of the Site;
- SEPA Water Environment Hub (SEPA, 2015) for watercourse classification;
- EIA documentation for North Kyle Wind Farm (adjacent to the Site)(East Ayrshire Council, 2019);
- Forestry and Land Scotland Land Management Plan (Forestry and Land Scotland, 2025) for Breezy Hill; and
- Relevant scientific literature on protected species' distribution, habitats distribution and conservation status etc.

Site Visit

6.4.5 The following field surveys were undertaken to further establish the baseline ecological conditions at the Proposed Development (plus appropriate buffers) to inform the assessment and were undertaken in line with standard methodologies and best practice guidance.

- National Vegetation Classification (NVC) surveys, incorporating Phase 1 habitat characterisation and potential Groundwater Dependent Terrestrial Ecosystem (GWDTE) habitats (June 2020, March 2021, September 2024 and March 2025).
- Protected species surveys (June 2020, June and July 2021, August and September 2024, March 2025), focusing on bats (preliminary roost assessments (PRA)), otter (Lutra lutra), water vole (Arvicola amphibius), badger (Meles meles), red squirrel (Sciurus vulgaris) and pine marten (Martes martes).
- Bat activity surveys (May 2020 to September 2020, May 2021 to October 2021 and April 2025 to September 2025).
- Fisheries surveys, including electrofishing and habitat surveys (September and October 2024; undertaken by ART).

6.4.6 Incidental records of other protected species or features of particular importance (slow worm (Anguis fragilis)), and potential hibernacula for reptiles, notable species, or invasive non-native species (INNS), were also recorded during field surveys.

6.4.7 The full details of the survey methods, species-specific legislation and guidance and results for surveys undertaken in 2020, 2021, 2024 and 2025 are provided within

Technical Appendices 6.1 - 6.4. Respective survey areas are shown in **Figures 6.3 - 6.17**.

6.4.8 It should be noted that protected species data collected in 2021 is detailed in **Technical Appendix 6.2**, and is included in this Chapter, but is considered as desk-based data.

6.4.9 Surveys for beaver (*Castor fiber*), great crested newt (*Triturus cristatus*) and wildcat (*Felis silvestris*) were scoped out of field surveys due to the absence of suitable habitat or the Site being located outwith the known range or distribution of these species.

Assessment of Significance

6.4.10 The assessment methodology, including criteria for identifying and assessing sensitivity of IEFs, magnitude of change and cumulative effects, as well as overall significance criteria, is detailed in **Technical Appendix 6.7**.

Limitations and Assumptions

Limitations

6.4.11 Limitations exist regarding the knowledge base on how some species, and the populations to which they belong, react to impacts. A precautionary approach is taken in these circumstances, and as such it is considered that these limitations do not affect the robustness of this assessment.

6.4.12 Ecological surveys are limited by factors which affect the presence of plants and animals, such as the time of year, migration patterns, and behaviour. The ecological surveys undertaken to inform the assessment of the Proposed Development have not therefore produced a complete list of plants and animals and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

6.4.13 No notable limitations were experienced with regards to habitats, fish, or protected species field surveys. The bat field surveys experienced some limitation due to failed Anabat detectors, however all bat detectors are susceptible to limitations and sufficient data was collected to inform a robust assessment regarding bat activity (see Technical Appendices 6.1 - 6.4 for details).

6.4.14 Whilst some general limitations have been identified, it is considered that there is sufficient information to enable a robust assessment to be taken in relation to the identification and assessment of potential effects on ecological features.

Assumptions

6.4.15 The following assumptions are included in the assessment of otherwise unmitigated effects on IEFs:

- Work on the Proposed Development, including vegetation clearance and construction of new access tracks, turbine hardstandings and other ancillary infrastructure, erection of the turbines and a BESS, and site restoration is

predicted to last for approximately 24 months, as set out in **Revised Chapter 2: Proposed Development**.

- All electrical cabling between turbines and the associated infrastructure would be underground in shallow trenches which would be reinstated post-construction and, wherever possible, follow the access tracks.
- The construction compound and any temporary laydown areas will be temporary infrastructure. Any disturbance or earthworks around permanent infrastructure during construction would be temporary and areas reinstated or restored before the construction phase ends.
- The embedded mitigation described in **Section 6.7** - Environmental Measures Embedded into the Development Proposals, will be fully applied, e.g., the presence of an Ecological Clerk of Works (ECoW), adherence to the agreed Species Protection Plan (SPP) and implementation of a Construction Environmental Management Plan (CEMP).
- Maintenance of the Proposed Development will involve vehicular access along the access tracks only. This will be small-scale work undertaken occasionally. This is unlikely to result in any operational effects on any species or habitats recorded at and around the Proposed Development.

6.5 Baseline

Current Baseline

Desk-Based Study

Designated Sites

6.5.1 There are no statutory or non-statutory designated sites within the application boundary. There are three statutory designated sites (SSSI's) located within 5 km of the Site with ecological (non-avian) qualifying features (NatureScot, 2024); these are detailed in **Table 6-2** and illustrated in **Figure 6.1.**

Table 6-2 – Designated Sites Within 5 km of the Site

Designated Site	Distance from Site	Distance from nearest proposed infrastructure	Qualifying Feature	Last Assessed Condition and Date
Barlosh Moss SSSI	3.4 km to the north of the Site	3.6 km	Raised Bog	Unfavourable Declining (19 March 2013)
			Hydromorphological mire range	Unfavourable Declining (8 September 2015)
Dalmellington Moss SSSI	4.1 km to the south of the Site	4.3 km	Raised Bog	Unfavourable Recovering (5 October 2007)
Bogton Loch SSSI	4.7 km to the south of the Site	5 km	Open water transition fen	Unfavourable recovering (14 August 2024)

6.5.2 There are 21 LNCS within 5 km of the Site, that are designated (wholly or partially) for habitat related, botanical, or protected species interests. The available summary details of these LNCS are presented in **Table 6-3** (See **Figure 6.3**).

Table 6-3 – LNCS Within 5 km of the Site

LNCS	Distance from Site	Description
Benquhat Hill	0.002 km	Botanically rich grassland with rare plants, birds and butterflies. Dunaskin Glen is a steep-sided gorge with scattered scrubby woodland of upland character, rich ground flora and species-rich ledges and flushes. Benquhat Hill is a good example of upland grassland with rock outcrops supporting a good variety of mosses, lichens and uncommon ferns. Data provided by South West Scotland Environmental Information Centre (SWSEIC) identified the small heath, dingy skipper and grayling butterflies are on the Scottish Biodiversity List and considered High Priority by Butterfly Conservation. This is an unusual non-coastal location for the grayling. Scotch argus butterfly is of local interest.
Rankinston Scrub, Water of Coyle	0.8 km	This site comprises agricultural fields, and scrub (hawthorn, blackthorn, gorse, willow) with scattered broadleaf woodland and Water of Coyle from the south to north. A disused railway also crosses the site.
Martyrs' Moss	1.2 km	This site comprises an area of upland habitats including bog, heathland and commercial forestry. Areas of scrub are to the north and east boundary, and Black Water runs along the north boundary. Beoch Lane burn runs along the south and east of the site. A minor road and farm are to the south of the site.
Benbeoch / Pennyvennie Glen	1.3 km	Botanically rich grassland and woodland with rare plants. Mostly open grassland habitat. Botanical interest lies in the vegetated ledges, scree and boulders of Benbeoch Craig which is surrounded by acidic grassland. Pennyvennie Glen contains semi-natural gorge woodland of upland character of birch, alder and ash with good shrub and ground layers.
Belston Loch	2.0 km	This site comprises of an area of wetland habitat, with scrub and trees to the west and grassland surrounding the loch. Taiglum Burn runs into the loch and small buildings are present to the north. Loch with surrounding swamp, willow carr and marshy habitat types.
Bow Burn	2.1 km	Semi-natural birch/alder woodland along steep banks of the burn. Some mature oak and pine. The wood is open to grazing which has impoverished the ground flora and prevented regeneration although there remains a good shrub layer.
Ashentree Glen Wood	2.7 km	Ashentree Glen, a small wych elm dominated woodland with good structure and dense thorn and hazel at its lower end. Data provided by SWSEIC identified a total of 63 records of butterflies listed on the Scottish Biodiversity List (SBL) were provided and include small pearl-bordered fritillary, grayling and small heath, and 16 records of dingy skipper.
Bent Burn	2.9 km	Wide roadside verge comprises open grassland, scrub and mature trees, with many acidic species and bounded at each end by dense willow scrub.
Dunaskin Ironworks	3.1 km	This site is predominantly a broadleaf semi-natural woodland comprised of mature and semi-mature silver birch, hawthorn,

LNCS	Distance from Site	Description
		ash, sycamore, willow and beech trees. Scattered through the south-east of the site are areas of bare ground, scrub and ephemeral / short perennial which are remnants of the ironworks activities within the site. Species gradually colonising these areas include birds-foot trefoil, clover, willow, wild strawberry, wood rush, dandelion, red campion, daisy, rosebay willowherb, all of which are moving in from the surrounding woodland.
Craigs of Kyle	3.2 km	No information available (located in South Ayrshire).
Cumnock Burn / Pennyvenie Burn	3.4 km	The grasslands in the west of the site, south of the B741 are a mosaic of improved, poor semi-improved and marshy grasslands, some of which contain scattered scrub or broadleaf trees. Much of the land in this area is grazed by sheep therefore species indicative of improvement is widespread. Tree species present in these grasslands include beech, oak, silver birch and horse chestnut, however large areas of rhododendron are also present.
Kerse Loch	3.5 km	Loch with small areas of swamp, willow carr and wet meadow. Western end has been infilled and only the narrow strip between the loch and dismantled railway embankment is of botanical interest.
Doon Valley Wetlands	3.5 km	A range of mire and fen communities covering a sizeable area along the River Doon between Waterside and Bellsbank. Includes Bogton Loch SSSI (standing water, fen carr and flush habitats) and Dalmellington Moss SSSI (raised mire, swamp and tall herb fen).
Burnock Water	3.6 km	This site is comprised of the Burnock Water watercourse and surrounding woodlands, grasslands and scrub. Semi-natural gorge woodland plus areas of gorse/broom scrub; old, coppiced hazel woodland and small areas of semi-improved meadow along the Burnock Water. Grazed throughout and further damaged by rubbish dumping and bank erosion around Barquharrie.
River Doon Woodland	4.4 km	The southern section is predominantly wooded, with an access track running along the eastern boundary and small encroachment from a tarmac area in the south. This section is immediately bordered by Patna cemetery to the south, and the River Doon forms the eastern boundary of the site. The northern section of the site is predominantly wooded and follows the River Doon and is generally surrounded by agricultural land and small areas of woodland.
Water of Coyle (Bridgend to Mill of Shield)	4.6 km	No information available (located in South Ayrshire).
Wallace Moor / Keirs Hill	4.6 km	A small area of relatively unmodified blanket bog, plus wet modified bog and wet heath/acid grassland habitats surrounded by Molinia-dominated marshy grassland. Bog myrtle (Mycria gale) is abundant.
Glaisnock Moss / Carnivan Hill	4.6 km	The site comprises an area of upland habitats of blanket bog, modified bog and acid grassland. Forestry plantation is present to the south-west, with associated access tracks.
Dalmellington Town Common	4.7 km	This site comprises grasslands and two small sections of scrub woodland in the north-west and south-east. There is a small

LNCS	Distance from Site	Description
		watercourse within the south-east, and a minor road through the centre.
Auchenroy / Glenmount Uplands	4.8 km	Part of an extensive site with variable habitat interest including large tracts of Molinia grassland, but also substantial areas of blanket bog with good representation of dry acid grassland.
Craigengillan / Ness Glen Woodland	4.9 km	A variety of woodland types including semi-natural.

Ancient Woodland

6.5.3 The definition of ancient woodland is land that is currently wooded and has been continually wooded at least since 1750. It is not related to the age of the trees that are currently growing there, and they do not have to be ancient or elderly, as it is the historical continuity of the woodland habitat that makes a woodland ancient.

6.5.4 There is no ancient woodland (as present on the Ancient Woodland Inventory (AWI, 2025)) within the Site, but there are several areas of ancient woodland within 5 km of the Site boundary; see **Figure 6.1.** This is categorised (in order of dominance within 5 km of the Site boundary) as follows:

- Long-established woodlands of plantation origin (LEPO) (1b and 2b) - Interpreted as plantation from maps of 1750 (1b) or 1860 (2b) and continuously wooded since. Many of these sites have developed semi-natural characteristics, especially the oldest stands, which may be as rich as ancient woodland.
- Ancient Woodland (1a and 2a) - Interpreted as semi-natural woodland from maps of 1750 (1a) or 1860 (2a) and continuously wooded to the present day. If planted with non-native species during the 20th century they are referred to as Plantations on Ancient Woodland Sites (PAWS).
- Other woodlands on Roy maps (3) - Shown as un-wooded on the 1st Edition of the Ordnance Survey maps (produced in circa 1850) but as woodland on the Roy maps (produced in circa 1750). Such sites have at most, had only a short break in continuity of woodland cover and may still retain features of ancient woodland.

Habitats

Terrestrial Habitats

6.5.5 The Carbon and Peatland Map 2016 (SNH, 2016c) was consulted to determine likely peatland classes present. The map is a predictive tool that provides an indication of the likely presence of peat at a high level. The map has been developed as "a high-level planning tool to promote consistency and clarity in the preparation of spatial frameworks by planning authorities". It identifies areas of *"nationally important carbon-rich soils, deep peat and priority peatland habitat"* [3] as Class 1

[3] Priority peatland habitat is land covered by peat-forming vegetation or vegetation associated with peat formation.

and Class 2 peatlands. Class 1 peatlands are also *"likely to be of high conservation value"* and Class 2 *"of potentially high conservation value and restoration potential".*

6.5.6 **Figure 6.2** indicates that, according to this predictive tool and map, there is one very small area of Class 1[4] peatland within the Site to the south towards Greengate Rig; there are other areas of Class 13 peatland outwith the Site to the east and south. There are no areas of Class 2 [5] peatland within the Site or within 1.8 km of the Site. Much of the Site and surrounding area is underlain by Class 3[6] , Class 4[7] , Class 5 [8] and Class 0 [9] (mineral) soils (see **Figure 6.2**).

6.5.7 As the Carbon and Peatland Map is a high-level tool, detailed habitat and peat depth surveys have been carried out across the Site to inform siting, design and mitigation and the detailed assessment on peatland and associated habitats. The results of the habitat surveys are discussed in **Technical Appendix 6.1**, and the results of the peat depth surveys are presented and discussed in **Chapter 8: Geology, Hydrology, Geohydrology and Peat,** and associated Technical Appendices.

Aquatic Habitats

6.5.8 The watercourses within the Site are all situated within the River Ayr catchment and flow to the Water of Coyle, Burnock Water and the Lugar Water. The watercourses within the Site include the Water of Coyle, the Hawford Burn, the Shield Burn, the Drumbowie Burn and the Watson Burn.

6.5.9 The Water of Coyle is the first major tributary of the River Ayr and enters the mainstem 500 m upstream of Tarholm Bridge near Annbank. The lower reaches of the Water of Coyle are accessible to migratory trout and salmon. At Sundrum there is a large waterfall that prevents upstream migration for trout and salmon although there is anecdotal evidence of juveniles having been caught by anglers upstream of the falls, indicating that occasional salmon and trout may ascend the falls and migrate upstream. The falls at Sundrum are natural but have had concrete poured over them to raise the height; this was part of a lade system in previous years. Nowadays this modification is redundant and, based on information provided by ART in **Technical Appendix 6.4**, is due to be removed. The removal is not part of

[4] Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value.

[5] Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential.

[6] Class 3 - Dominant vegetation cover is not priority peatland habitat but is associated with wet and acidic type. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat. Indicative soil = Predominantly peaty soil with some peat soil. Indicative vegetation = Peatland with some heath.

[7] Class 4 - Area unlikely to be associated with peatland habitats or wet and acidic type. Area unlikely to include carbon-rich soil. Indicative soil = Predominantly mineral soil with some peat soil. Indicative vegetation = Heath with some peatland.

[8] Class 5 - Soil information takes precedence over vegetation data. No peatland habitat recorded. May also include areas of bare soil. Soils are carbon-rich and deep peat. Indicative soil = Peat soil. Indicative vegetation = No peatland vegetation.

[9] Class 0 - Mineral soil - Peatland habitats are not typically found on such soils. No peatland vegetation.

the Proposed Development and at the time of writing, is it not known when or who would be responsible for removal.

6.5.10 The Burnock Water is the first major tributary of the Lugar Water. The Lugar Water joins the River Ayr near Mauchline. The lower reaches of the Burnock are accessible to migratory trout and salmon. There is a large rock weir that prevents most upstream migration although there are occasional anecdotal reports of salmon parr upstream of the weir and ART biologists have recorded a single salmon parr upstream of the weir. The weir isn't natural and was built to feed a lade system at Burnock Mill. As the Mill is now defunct there is no requirement for the weir and based on information provided by ART in Technical Appendix 6.4 there are plans for this to be removed which will allow migratory trout and salmon to access the upper reaches of the burn and the tributaries that feed the catchment. The removal is not part of the Proposed Development and at the time of writing, is it not known when or who would be responsible for removal.

6.5.11 Water of Coyle (upstream of Taiglun Burn) and Burnock Water were classified by SEPA as part of their Water Framework Directive (WFD) classification and were assessed in 2023 as having an overall status of Poor ecological potential (classified as potential as waterbody is classified as a heavily modified water body).

6.5.12 Barriers to fish migration (falls at Sundrum and Burnock Weir) significantly reduce the likelihood of migratory fish reaching the watercourses within the Site boundary.

Protected Species

6.5.13 A search of the NBN Atlas Scotland (2025) covering a 5 km buffer from the Site in the past 15 years (i.e., from 2010 onwards) returned records of the following protected or notable species:

- common lizard (*Zootoca vivpara*);
- otter;
- red squirrel; and
- adder (*Vipera berus*).

6.5.14 The NBN Atlas Scotland (2025) search also identified records of the following bat species within 10 km of the Site between 2010 - 2025 inclusive:

- Daubenton's bat (Myotis daubentonii);
- Common pipistrelle (Pipistrellus pipistrellus);
- Soprano pipistrelle (P. pygmaeus);
- Brown long-eared bat (Plecotus auritus);
- Natterer's bat (Myotis nattereri);
- Leisler's bat (Nyctalus leisleri); and
- Noctule bat (N. noctule).

6.5.15 Sightings of red squirrel have been recorded by Saving Scotland's Red Squirrels (2025) within 5 km of the Site in 2013, 2015, 2016, 2017, 2018, 2020 and 2021.

6.5.16 The Deer Distribution Survey (The British Deer Society, 2025) results suggested the presence of the following deer species in the general area of the site:

- roe deer (*Capreolus capreolus*); and
- red deer (*Cervus elaphus*).

6.5.17 Surveys undertaken to inform the EIAR for North Kyle Wind Farm (East Ayrshire Council, 2019) (adjacent to the Proposed Development) recorded evidence of:

- bats (foraging and commuting);
- otter;
- badger;
- pine marten;
- water vole;
- brown hare (Lepus europaeus); and
- common lizard.

Other Species

Invasive Non-Native Species (INNS)

6.5.18 A search of the NBN Atlas Scotland (2025) covering a 5 km buffer from the Site from 2010 onwards returned records of the following INNS:

- grey squirrel (*Scirurus carolinensis*).

Field Surveys

Habitats

National Vegetation Classification (NVC) and Phase 1

6.5.19 **Technical Appendix 6.1** sets out detailed descriptions of habitats identified, and vegetation recorded during the respective surveys. The NVC data collected were also cross-referenced to the Phase 1 Habitat Survey Classification (JNCC, 2010) to allow a broader characterisation of habitats. The extent of Phase 1 habitat types within the Site was calculated using the correlation of NVC communities to their respective Phase 1 types specific to the Site and their extents mapped within ArcGIS software, including within mosaic areas.

6.5.20 Twenty-three NVC communities and 28 non-NVC communities were recorded within the Site, and which corresponded to 22 Phase 1 habitat types. These communities and habitat types, and their respective Site-specific correlations are

detailed in **Technical Appendix 6.1**, and their distributions illustrated in **Figure 6.3** (**Figures 6.3.1 - 6.3.11**).

6.5.21 The extents of NVC communities and non-NVC types recorded within the Site are provided in Annex A, **Table 6-11** (included at the end of this chapter) and include proportions of particular habitat types that are found within the Site, including those within mosaic habitats.

6.5.22 The Site is dominated by coniferous plantation (A1.2.2), with recently felled coniferous plantation (A4.2) and marshy grassland (B5) also relatively common (Phase 1 habitat codes in brackets). Smaller areas of several other habitat types are present, with the relatively more common ones including unimproved acid grassland (B1.1), blanket bog (E1.6.1), wet modified bog (E1.7), acid/neutral flush (E2.1), standing water (G1), and bare ground (J4) (**Figures 6.3.1 - 6.3.11**). Blanket bog is scarce and fragmented and predominantly restricted to the west and north-west of the Site, whilst isolated areas of wet modified bog are present in forest rides and larger woodland openings across the Site (**Figures 6.3.1 - 6.3.11**).

6.5.23 The only habitat types that have subsequently been scoped into the assessment of effects due to their extent and nature conservation value (as detailed in Technical Appendix 6.1) are blanket bog and wet modified bog. As noted above, blanket bog is relatively uncommon within the Site. The blanket bog present is NVC types M18 Erica tetralix – Sphagnum papillosum blanket mire and M19 Calluna vulgaris – Eriophorum vaginatum blanket mire. A small area of the M3 Eriophorum angustifolium community was recorded once. Wet modified bog is relatively uncommon and is mainly located to the west and north-west of the Site. It is comprised of the M20 Eriophorum vaginatum blanket mire community and M25a Molinia caerulea – Potentilla erecta mire Erica tetralix sub-community on peat of greater than 0.5 m in depth or having affinities more to blanket mire vegetation. In these instances, M25a being denoted as M25a^ when classified as wet modified bog, rather than marshy grassland (i.e., M25a). Detailed description of these NVC communities is provided in **Technical Appendix 6.1**.

6.5.24 The blanket bog and wet modified bog within the Site is a degraded resource that has been impacted over time in several ways. Many areas of the blanket bog have been subject to various impacts and forms of disturbance and associated drying out, such as drainage, forestry plantation, historical mine works and grazing. In places this has also allowed encroachment and invasion of younger trees such as conifer saplings and regenerating willows (*Salix* spp.), patches of bare peat, areas of modified vegetation and often encroachment of non-typical mire species which has overall resulted in blanket bog in poor condition.

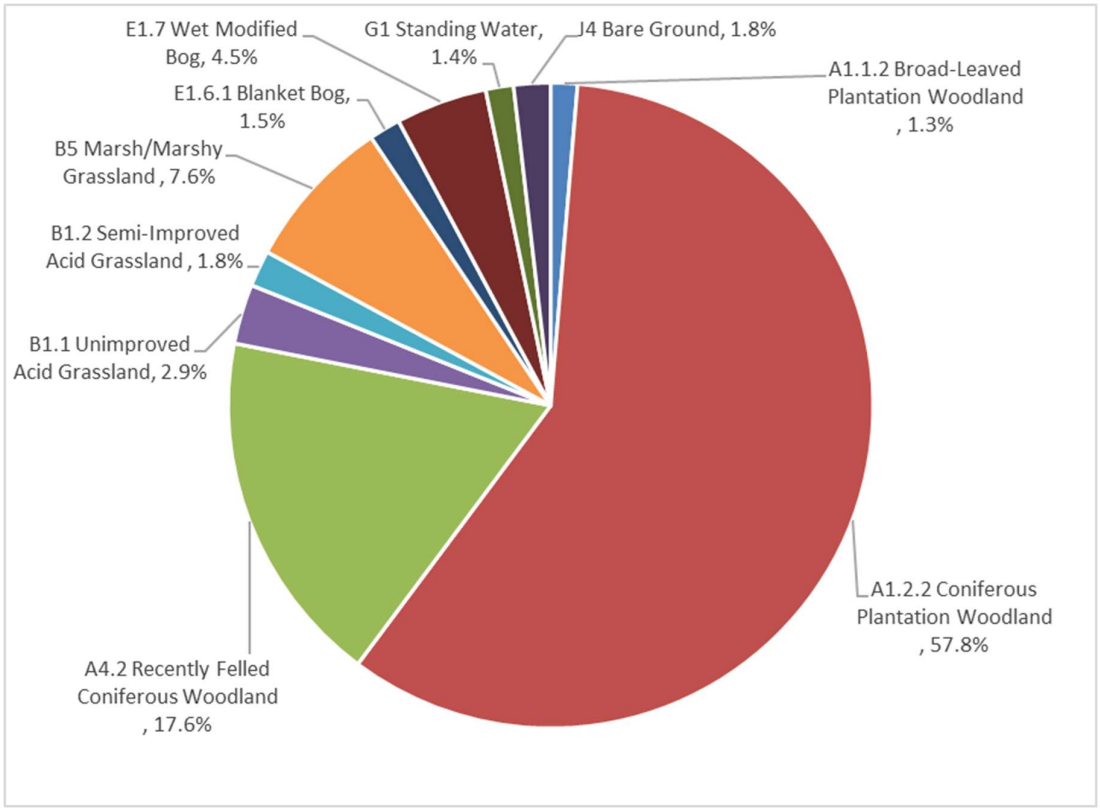

Chart 6-1: Predominant Phase 1 Habitat Types Recorded Within the Site (habitat types making up <1% of the Site are not included).

Groundwater Dependent Terrestrial Ecosystems (GWDTE)

6.5.25 The NVC results were referenced against SEPA guidance (SEPA, 2024) to identify those habitats which may be classified, depending on the hydrogeological setting, as being potentially groundwater dependent.

6.5.26 Potential GWDTE NVC communities recorded within the Site are detailed in **Technical Appendix 6.1** and their distribution shown on **Figure 6.4**.

6.5.27 Potential GWDTE sensitivity has been assigned solely on the SEPA listings. However, many of the NVC communities on the list are very common habitat types across Scotland, and some are otherwise generally of low ecological value. Furthermore, some of the NVC communities may be considered GWDTE only in certain hydrogeological settings.

6.5.28 Designation as a potential GWDTE does not therefore infer an intrinsic biodiversity value, and GWDTE status has not been used as criteria to determine a habitats respective conservation importance. There is however a statutory requirement to consider GWDTEs and the data gathered during the NVC surveys has been used to inform this assessment. **Chapter 8** and **Technical Appendix 8.7** state that the

potential GWDTEs are unlikely to be supplied by groundwater and are therefore unlikely to be GWDTEs.

Annex I Habitats

6.5.29 A number of NVC communities can also correlate to various Annex I habitat types. However, the fact that an NVC community can be attributed to an Annex I type does not necessarily mean all instances of that NVC community constitute Annex I habitat. Its Annex I status can depend on various factors such as quality, extent, species assemblages, geographical setting and substrates.

6.5.30 Joint Nature Conservation Committee (JNCC) Annex I habitat listings and descriptions have been compared with survey results and field observations. Those habitats within the Site which could be considered Annex I habitats are detailed in **Technical Appendix 6.1**.

Scottish Biodiversity List (SBL) Habitats

6.5.31 The SBL (NatureScot, 2020) is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland.

6.5.32 The SBL identifies habitats which are the highest priority for biodiversity conservation in Scotland; these are termed 'priority habitats'. Some of the priority habitats are quite broad and can be correlated to many NVC types.

6.5.33 Relevant SBL priority habitat types and corresponding associated NVC types recorded within the Site are detailed in **Technical Appendix 6.1**.

6.5.34 These SBL priority habitats correspond with the UK Biodiversity Action Plan (BAP) Priority Habitats.

Protected Species (Non-Avian)

6.5.35 This section outlines the results from the protected species surveys undertaken in 2020 (northern part of the Site), 2021 (southern part of the Site), 2024 (full Site), and 2025 (ground-level static bat surveys). For the purposes of the report, data recorded in 2024 is discussed first, and only field signs recorded in 2024 are mapped. Data recorded in 2020 and 2021 is considered out of date to inform the assessment on its own but is included to provide additional context to inform the assessment.

6.5.36 Detailed methodologies, survey timings, and results, including the legal status of each species, are included within **Technical Appendices 6.2 - 6.4** inclusive, and their associated annexes. Results are presented in **Figures 6.5 - 6.17** inclusive, with confidential information presented **on Figure 6.5C**.

Badger

6.5.37 Four setts were recorded within the Site, including one main sett. Badger footprints were also recorded. The same setts in addition to feeding signs and paths were recorded in 2020 and 2021 (**Technical Appendix 6.2C**; EIA Report Volume 5) and

Figure 6.5C (Revised EIA Report Volume 5). The same setts, in addition to feeding signs and paths were recorded in 2021 (**Technical Appendix 6.2C**; Revised EIA Report **Volume 5**).

Bats

Preliminary Roost Assessment (PRA)

6.5.38 The PRA survey for the Proposed Development was undertaken in June and July 2021; two areas of young trees with low potential to support roosting bat were recorded. Update surveys undertaken in July and August 2024 recorded no features considered suitable for roosting bats.

Bat Activity Surveys

Automated Ground Level Activity Surveys

6.5.39 In 2020, MacArthur Green deployed detectors at nine locations at the Site from May to September, over a total period of 43 days and collected 389 complete recording nights of data (see **Technical Appendix 6.3** (**Table B-1** of **Annex B**) and **Figure 6.6**.

6.5.40 A total of four bat species and two bat genus were recorded at these locations. The total number of bat passes recorded for each species across all nine locations within the Site in 2020 are shown below in **Table 6-4**. It can be seen that Pipistrelle species (n=13,784) accounted for 94.9 % of all calls recorded.

Table 6-4 – Total Number of Bat Passes for Each Species Across all Locations in 2020.

Species/Species group	No. of registrations	Percentage of Total (%)
Soprano pipistrelle	7,193	49.5
Common pipistrelle	6,591	45.4
Daubenton's	70	0.5
Nyctalus spp.	606	4.2
Myotis spp.	53	0.4
Natterer's	6	<0.01
Total	**14,519**[10]	**100**

6.5.41 In 2021, MacArthur Green deployed detectors at 12 locations at the Site from May to October over a total period of 42 days and collected 469 complete recording nights of data (see **Technical Appendix 6.3** (**Table B-2** of **Annex B**) and **Figure 6.6**.

6.5.42 A total of five bat species and one bat genus were recorded at these locations. The total number of bat passes recorded for each species across all 12 locations within

[10] NoID call registrations were not considered for analysis.

the Site are shown below in **Table 6-5**. It can be seen that Pipistrelle species (n=4,793) accounted for 92.9 % of all calls recorded.

Table 6-5 - Total Number of Bat Passes for Each Species Across all Locations in 2021.

Species/Species group	No. of registrations	Percentage of Total (%)
Soprano pipistrelle	1,328	25.7
Common pipistrelle	3,465	67.2
Daubenton's	112	2.2
Nyctalus spp.	188	3.6
Brown long-eared	46	0.9
Natterer's	19	0.04
Total	**5,158**[11]	**100**

6.5.43 In 2025, MacArthur Green (now SLR1) deployed detectors at five locations at the Site from April to September, over a total period of 42 days and collected 193 complete recording nights of data (see **Technical Appendix 6.3** (**Table B-3** of **Annex B**) and **Figure 6.6**.

6.5.44 A total of six bat species and one bat genus were recorded at these locations. The total number of bat passes recorded for each species across all five locations within the Site in 2025 are shown below in **Table 6-6**. It can be seen that Pipistrelle species (n=3,101) accounted for 80.7 % of all calls recorded.

Table 6-6 – Total Number of Bat Passes for Each Species Across All Locations in 2025

Species/Species Group	No. of Registrations	Percentage of Total (%)
Soprano pipistrelle	1,114	29.0
Common pipistrelle	1,986	51.7
Nathusius' pipistrelle	1[12]	0.0
Daubenton's	148	3.9
Nyctalus spp.	534	13.9
Brown long-eared	21	0.5
Natterer's	29	1.0
Total	**3,843**	**100**

Quantifying Activity

6.5.45 The data from the 2020, 2021 and 2025 static bat activity surveys was analysed using the Ecobat tool [13] to gain a measure of relative bat activity at the Proposed

[11] Taken from Ecobat analysis report created on the 05/08/2021 from static activity data of the Proposed Development in 2020.

[12] Only one Nathusius' pipistrelle bat was detected across three years of monitoring, and no other calls from the species have been recorded within the region or within the month; therefore, this record should be interpreted cautiously and is likely an isolated anomaly (see **Technical Appendix 6.3**).

[13] https://mammal.org.uk/current-research/bat-survey-tools

Development. The data was then evaluated to determine overall Site risk level for each species. The guidance explains that: *"The tool compares data entered by the user with bat survey information collected from similar areas at the same time of year…Ecobat generates a percentile rank for each night of activity and provides a numerical way of interpreting the levels of bat activity recorded at a site across regions in Britain"*. The data from the Site in 2020 and 2021 were compared with data from within 30 days of the survey, and within 100 km of the Site. The data from the Site in 2025 was compared with data from one month of the survey date, and within the same Region. The full Ecobat Reports are provided in **Technical Appendix 6.3**.

6.5.46 This Ecobat analysis provides a measure of average annual site activity based on the median (most frequent activity category and representative of the 'typical' bat activity levels in the study area) and maximum (unusually high levels or important peaks of bat activity) percentiles[14]. A reference range representing the number of nights for each species that the data was compared to was also generated. In general, a reference range of more than 200 nights is recommended for confidence in the activity level stated by the Ecobat output.

6.5.47 In 2020, the highest activity was exhibited by common and soprano pipistrelle (Moderate-High for the median percentile, and High for the maximum percentile). This was followed by *Nyctalus* spp. (Moderate and High for the respective percentiles). *Myotis* spp. were attributed activity levels of Low-Moderate and Moderate–High for the respective percentiles), and Daubenton's were attributed Low for the median percentile and Moderate-High at the maximum percentile). Natterer's were attributed Low activity both at the median and maximum percentiles. Full details are shown in **Table 6-5** of **Technical Appendix 6.3**.

6.5.48 In 2021, *Nyctalus* spp., common and soprano pipistrelle were attributed activity levels of Low-Moderate for the median percentile and High at the maximum percentile). Natterer's and Daubenton's were attributed Low for the median percentile and Low-Moderate and Moderate-High for the maximum percentiles respectively. Brown long-eared bat were attributed Low for the median percentile and Moderate for the maximum percentile. Full details are shown in **Table 6-6** of **Technical Appendix 6.3**.

6.5.49 In 2025, *Nyctalus* spp., Daubenton's, common and soprano pipistrelle were attributed activity levels of Low for the median percentiles. Natterer's were attributed Low-Moderate, brown long-eared were attributed Moderate and Nathusius' pipistrelle were attributed High for the median percentile. *Nyctalus* spp., Nathusius' pipistrelle and brown long-eared were attributed High for the maximum percentile. Daubenton's and Natterer's were attributed Moderate for the maximum percentile. Common and soprano pipistrelle were attributed Low and Low-Moderate respectively for the maximum percentile. The reference ranges for Nathusius' pipistrelle and brown long-eared were below 200 (1 and 136 respectively), therefore

[14] The percentile rank is attributed to one of the following five bat activity categories as defined within relevant guidance: Low (0-20 %), Low-Moderate (21-40 %), Moderate (41-60 %), Moderate-High (61-80 %) and High (81-100 %).

measures of the relative activity level for these species should be treated with caution. Full details are shown in **Table 6-7** of **Technical Appendix 6.3**.

Assessing Potential Risk

6.5.50 As detailed in **Technical Appendix 6.3**, the site risk level was determined to be Medium, based on having a Medium project size and a Moderate habitat risk.

6.5.51 As per NatureScot et al. (2021) guidance, the following species and genus recorded during surveys are deemed to have a high collision risk: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and *Nyctalus* spp. All other bat species and genus recorded are categorised as low collision risk and of low population vulnerability following the same guidance. The assessment of potential risk to bat species is discussed in detail in **Section 6.6**.

6.5.52 The activity levels calculated for the high collision risk species and the site risk level were used to calculate an overall risk assessment score based on both the median and maximum percentiles. Common pipistrelle, soprano pipistrelle and *Nyctalus* spp., were calculated to have an overall risk assessment score of Medium (based on median percentiles in both 2020 and 2021) and High, based on maximum percentiles in 2020 and 2021. In 2025, common pipistrelle, soprano pipistrelle and *Nyctalus* spp., were calculated to have an overall risk assessment score of Low (based on median percentiles). Nathusius' pipistrelle were calculated to have an overall risk assessment score of High (based on median and maximum percentile). Common pipistrelle were calculated to have an overall risk assessment score of Low, soprano pipistrelle were calculated to have an overall risk assessment score of Medium and *Nyctalus'* spp., were calculated to have an overall risk assessment score of High based on maximum percentiles.

Otter

6.5.53 Evidence of otter was recorded within the Site in 2024; along the Water of Coyle (nine spraints) and Shield Burn (one spraint). No protected features (holts or couches) were recorded. In 2021, a total of 30 spraints were recorded along the Water of Coyle (**Technical Appendix 6.2**); two couches were also recorded (**Technical Appendix 6.2C** (EIA Report Volume 5)).

6.5.54 Whilst the watercourses within the Site are predominantly small, the evidence recorded shows that otter do use watercourses within the Site. Several watercourses within the Site could provide some limited suitability for otter (likely commuting and foraging only). Water of Coyle and Shield Burn are of a more suitable size for use by otter, with large sections of riparian woodland present which provide cover, shelter and potential holting opportunities.

Pine Marten

6.5.55 Although no dens or potential dens were recorded within the Site, six potential pine marten scats were recorded within the Site in 2024. In 2020, an individual was sighted during an ornithology survey conducted by MacArthur Green. There is very limited suitable habitat for pine marten within the Site due to the extent of clear-fell.

Small pockets of broadleaf woodland remain, amongst plantation coupes of varying ages.

Red Squirrel

6.5.56 An incidental sighting of a red squirrel was recorded in 2024, and six individuals were recorded in 2020. In addition to this confirmed evidence, squirrel feeding signs and a potential drey were also recorded; these field signs cannot be confirmed as to be of red squirrel as grey squirrel are known to be present in the wider area.

6.5.57 Areas of broadleaf woodland within the Site are small and scattered, offering limited suitability for red squirrel. The mature Sitka spruce offer limited suitable habitat and food availability.

Reptiles

6.5.58 One reptile (common lizard) sighting was recorded within the Site in 2024; furthermore, one feature with the potential for use by hibernating reptiles was identified; this was a pile of stones within a forestry ride. In 2020 and 2021, a total of 15 reptile (common lizard) sightings were recorded, as well as seven features with the potential for use by hibernating reptiles was identified; a pile of stones on a forestry ride, existing stone walls, vegetated wood pile and old stacked wood.

Water Vole

6.5.59 Two burrows and feeding signs of potential water vole were recorded during the surveys in 2024 (**Figure 6.5**); three potential feeding signs of water vole were recorded in 2020 and 2021.

6.5.60 Several watercourses are present on Site which could provide some suitability for water vole. Rush vegetation was noted as present along some watercourses, which could provide foraging opportunities for water vole.

Brown Hare and Mountain Hare

6.5.61 No evidence of brown or mountain hare (*Lepus timidus*) was recorded during field surveys. Furthermore, suitable habitat within the Site is limited.

Fish

6.5.62 Based on the electrofishing surveys completed in 2024 (**Technical Appendix 6.4**), only brown trout (*Salmo trutta*) is present within the Site (recorded at five of the eight surveys sites); a combination of young-of-the-year (0+) and older (1++) fish recorded. Atlantic salmon (*Salmo salar*) and European eel (*Anguilla anguilla*) were absent from all survey sites. The presence of Ness Linn Falls and the Burnock Mill

Weir form barriers which significantly inhibit migratory Atlantic salmon, European eel and Lamprey (*Lampetra* spp. / *Petromyzon marinus*).

Other Species and INNS

6.5.63 A number of mammal holes of various sizes were recorded across the Site. Some were of a size suitable for badger, but no definitive signs of use by badger were found. Others were likely to be in use by rabbits or foxes.

6.5.64 No INNS were recorded during surveys.

Future Baseline

6.5.65 In the absence of the Proposed Development, it is likely that the IEFs would generally remain as they are at present, although numbers and distribution of species may fluctuate naturally. The Site will continue to be managed as conifer plantation (combination of newly planted and older stock) which would be subject to a future felling plan and may create temporary localised habitat changes until replanting and canopy closure. In addition to this Forestry and Land Scotland (FLS) are currently developing their Land Management Plan (Forestry and Land Scotland, 2025) for the Proposed Development which includes the planting of a biodiverse range of native tree species and non-native conifers. Vegetation and habitat composition and extents across the Site may fluctuate marginally in the long-term in line with fluctuations in deer browsing.

6.5.66 As discussed in **Section 6.5**, based on information provided by ART (**Technical Appendix 6.4**), there are plans to remove barriers to fish migration at Sundrum and Burnock Weir. This is not part of the Proposed Development, and the timing of or who is responsible for this is not known at the time of writing. This could open up larger areas of the Burnock water and Water of Coyle to spawning trout and salmon. This is discussed further in **Section 6.6**.

6.6 Scope of the Assessment

Receptors Requiring Assessment

Scoped Out Receptors

6.6.1 On the basis of professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, generally common and widely distributed habitats or species which do not fall within the following categories were scoped out of the detailed assessment:

- Habitats listed in Annex I to the Habitats Directive, and species listed in Annex II to the Habitats Directive (i.e., European Union Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora);
- Biodiversity Action Plan (UKBAP) or Scottish Biodiversity List (SBL) Priority Habitats; and
- Habitats or species protected by other legislation such as The Wildlife and Countryside Act 1981 (as amended), the Nature Conservation (Scotland) Act 2004 (as amended), or The Protection of Badgers Act 1992.

6.6.2 With consideration of the additional desk study and survey findings, and following the iterative design (described in **Chapter 3: Design Evolution and Alternatives**) and embedded mitigation measures described in **Section 6.6** and project assumptions (**Section 6.4**), several other ecological features can be scoped out of further assessment based on the professional judgement of the EIA Team and experience from other relevant projects and policy guidance or standards. This includes effects from the construction and operational phases of the Proposed Development, as well as cumulative effects. The following sections detail the ecological features and effects that have been scoped out following further desk-based assessment and Site surveys. The receptors scoped out of the assessment are listed below.

Designated Sites

6.6.3 Based on the distance from the Site and lack of connectivity, there will be no direct impact upon any designated sites with qualifying ecological features.

6.6.4 The potential for indirect impacts on the qualifying features of Barlosh Moss SSSI, Dalmellington Moss SSSI and Bogton Loch SSSI as well as the identified LNCS, are scoped out of detailed assessment on the basis of embedded good practice measures, to be implemented during the construction, operation and decommissioning of the Proposed Development through a CEMP, which will include information of pollution prevention which is the main indirect risk to the SSSI and LNCS.

Ancient Woodland

6.6.5 There is no ancient woodland (as present on the AWI) within the Site, but there are several discrete areas of ancient woodland within 5 km of the Site boundary; see **Figure 6.1**. This is categorised (in order of dominance within 5 km of the Site boundary) as Long-established woodlands of plantation origin (LEPO) (1b and 2b), Ancient Woodland (1a and 2a), and Other woodlands on Roy maps (3).

6.6.6 No woodland removal or fragmentation will occur to any AWI site as a result of the Proposed Development. With embedded mitigation (**Section 6.6**) in place, no pollution effects are anticipated. Effects on ancient woodland are therefore considered to be negligible and as such have been scoped out of further assessment.

Terrestrial Habitats

6.6.7 The following habitats (using Phase 1 Habitat terminology and codes) are considered of less than 'Local' conservation/ecological value in the context of the Proposed Development as they are features which are relatively common and/or widespread locally and/or regionally (i.e. of low conservation value), which are, in some instances, present only in very small areas:

- Coniferous Plantation Woodland (A1.2.2);
- Scattered Coniferous Trees (A3.2);
- Recently felled coniferous woodland (A4.2);

- Unimproved Acid Grassland (B1.1);
- Semi-Improved Acid Grassland (B1.2);
- Unimproved Neutral Grassland (B2.1);
- Tall Ruderal (C3.1);
- Non-Ruderal (C3.2);
- Quarry (I2.1);
- Bare Ground (J4); and
- Other Habitat [15] (J5).

6.6.8 A number of other habitats recorded within the Site are of local importance, some due to their listing as Annex I habitats or SBL Priority Habitats (**Technical Appendix 6.1**. However, as they occupy such small areas within the Site, are species-poor examples, and/or any direct or indirect effects on the habitat will not occur or will be negligible in magnitude (**Annex A, Table 6 11**), all effects on them are scoped out of the assessment. These habitats include:

- Broad-Leaved Semi-Natural Woodland (A1.1.1);
- Broad-Leaved Plantation Woodland (A1.1.2);
- Scattered Broad-Leaved Trees (A3.1);
- Marsh/Marshy Grassland (B5);
- Wet Dwarf Shrub Heath (D2);
- Acid/Neutral Flush (E2.1);
- Swamp (F1); and
- Standing Water (G1).

Aquatic Habitats and Species

6.6.9 Effects on aquatic habitats including standing water, running water and fisheries interests are scoped out of the assessment, on the basis of sensitive scheme design and embedded mitigation (**Section 6.6**). Migratory salmonids are unable to access the Site as a result of barriers to migration identified downstream of the Proposed Development. No salmon were caught, and brown trout were caught at five of the eight survey sites. Young-of-the-year (0+) fish were caught at five sampling sites, whilst numbers of older (1++) brown trout were caught in low numbers at two sites (**Technical Appendix 6.4**).

6.6.10 The Proposed Development has the potential to impact negatively on water quality and hydrogeomorphology in the absence of mitigation. However, to avoid direct or indirect impacts on these features, a minimum 50 m buffer distance between infrastructure and watercourses has been maintained where possible, except where

[15] Areas of 'Other Habitat (J5)' relate to areas of former surface mine that have been historically abandoned and left unrestored within the Site.

an access track watercourse crossing and/or other design constraints cannot be avoided to maintain this buffer.

6.6.11 Five new watercourse crossings are required within the Site as part of the Proposed Development. Habitat suitability is limited here - this is reflected in the low numbers of fish caught during the baseline surveys. The design of permanent access track water crossings would comply with SEPA good practice guidance to minimise impacts on fish and their habitat.

6.6.12 In general, the embedded mitigation (**Section 6.6**) includes that construction work would comply with a CEMP developed by the Principal Contractor, which would be monitored by a suitably experienced ECoW. The CEMP would include good practice mitigation for effective silt and pollution prevention and undertaking works in accordance with SEPA best practice guidance. With this embedded mitigation in place, water pollution impacts and associated likely significant effects associated with the Proposed Development on watercourses and aquatic ecology are considered unlikely and therefore these pollution impacts are scoped out of further assessment. Further assessments of watercourses are provided in Chapter 8: Geology, Hydrology, Hydrogeology and Peat.

Protected Species

6.6.13 Guidance (Scottish Renewables et al., 2019) stipulates that there are some species which, with embedded mitigation measures, are unlikely to experience a significant environmental effect to their populations as a result of the construction and/or operation of onshore wind farms. These species do not require surveys to inform the design and assessment of an onshore wind farm development but may require appropriate mitigation to ensure legislative compliance.

6.6.14 Effects on otter, pine marten, red squirrel, water vole, great crested newt (GCN), mountain hare, wildcat, and beaver are scoped out of the assessment due to the absence of protected features, lack of suitable habitat, limited desk-based assessment or field evidence within the Site, and/or lack of potential effects from the Proposed Development.

6.6.15 Common lizard are known to be on site and a suitable hibernaculum was recorded. Reptiles are mobile species capable of avoiding disturbance except during hibernation. The identified hibernacula lie outwith the turbine infrastructure. Furthermore, reptiles are included in the Species Protection Plan (SPP) (**Technical Appendix 6.5).** However, the risk is considered to be low and reptile are scoped out of the assessment.

6.6.16 Effects on badger are scoped out of the assessment. Whilst the presence of badger has been established within the Site, the species is widespread across Scotland and is protected for welfare reasons rather than conservation concerns. Although there has been removal of forestry (not associated with the Proposed Development), suitable foraging habitats and sett creation opportunities will remain available and extensive within the Site and wider surrounding area. Mitigation through scheme design has also ensured that all setts recorded within the Site are located outside of the recommended 30 m avoidance buffer for superficial works

and 100 m for pile driving and blasting work, associated with the Proposed Development, in accordance with NatureScot (2025) guidance. It is considered that with the application of embedded mitigation during construction and operation, including pre-commencement surveys, good practice measures to prevent breaches of legislation including the outlining provisions for species licencing where this may be required, there is no likelihood for significant impacts to badger populations as a result of the Proposed Development. Badger is therefore scoped out of further assessment.

6.6.17 Effects on roosting bats are scoped out of the assessment. No potential maternity roosts and/or hibernation/swarming sites have been identified within the Site.

6.6.18 Surveys suggest the site may support eight species of bat for commuting and foraging: common, soprano, and Nathusius' [16] pipistrelles, Daubenton's, Natterer's, brown long-eared, Leisler's and noctule. Following guidance[17] , this equates to a Nationally important assemblage. No construction effects on foraging and commuting bats are anticipated as works would mainly take place during daylight hours during the season when bats are active (April to October, inclusive), therefore any disturbance to foraging and commuting bats of any species is unlikely to occur or would likely be negligible in magnitude and is therefore scoped out.

6.6.19 Operational and cumulative effects arising from collision mortality for low collision risk bat species are scoped out of the assessment (as per NatureScot et al., 2021). These effects on brown long-eared bat, Daubenton's bat and Natterer's bat are therefore scoped-out of the assessment.

6.6.20 A SPP (outline provided in **Technical Appendix 6.5**) will be implemented to enforce suitable mitigation measures to ensure compliance with protected species legislation during construction.

6.6.21 Effects on all IEFs during operation of the Proposed Development (with the exception of collision risk to high collision risk bat species) have been scoped out. Maintenance of the Proposed Development will involve vehicular access along the access tracks only, and any maintenance of turbines will be occasional, typically carried out by a small number of maintenance staff inside the turbines during normal working hours. This is unlikely to result in any operational effects on any species or habitats recorded at and around the Proposed Development.

Other Species

Deer

6.6.22 Effects on deer are scoped out of the assessment. Red and roe deer may be present in the locality of the Site. The site is used for commercial forestry which would potentially support deer. Operational effects are not anticipated as there is

[16] Although only one Nathusius' pipistrelle registration was recorded, and therefore could be an anomaly, given the location of the site and consultation with the Ayrshire and Arran Bat Group, the site may support small numbers of the species.

[17] CIEEM (2023). UK Bat Mitigation Guidelines.

no deer fencing around the Site and therefore deer may use and pass through uninhibited. Due to the extensive amount of similar suitable habitat in the surrounding land, and its accessibility, the small loss of grazing habitat associated with the Proposed Development is expected to be negligible to the wide-ranging species. The size of the Proposed Development is not considered to pose a significant barrier to any local movements or migrations of deer.

6.6.23 Construction effects are expected to be minimal due to the timing of works (i.e., primarily during the day, with deer more active during evening/nights), and a short-term construction period (approximately 24 months). If individuals are displaced during construction, there are suitable routes around the Site which will not force deer into areas of risk, or towards built-up areas. As a result of the size and location of the Proposed Development, temporary construction period, the retention of woodland, minimal habitat loss, enforced low speed limits of the access tracks during the lifecycle of the Proposed Development, and the extensive suitable habitat and commuting corridors locally within the Site and beyond, no negative effects on deer are predicted. Due to minimal displacement expected outwith the Site during construction and operation, no negative effects through increased browsing/trampling on surrounding habitats are expected.

Scoped In Receptors

Important Ecological Features

6.6.24 A summary of the nature conservation value of the remaining IEFs identified within the Site and surrounding area (as confirmed through survey results and consultation outlined above) which have been scoped in to the assessment is provided in **Table 6-7**, together with the justification for inclusion. These comprise Blanket Bog and Wet Modified Bog (treated as a combined receptor) and high-risk collision bat species. The nature conservation value and rationale are explained in Table 2-1 of **Technical Appendix 6.7**.

Table 6-7 – Summary of IEF Sensitivity

IEF	Nature Conservation Value	Relevant Legislation/Guidance & Justification
Blanket Bog and Wet Modified Bog	Local	Blanket bog covers 16.83 ha (1.55 %) of the Site whilst wet modified bog covers a further 48.98 ha (4.50 %) (**Annex A**, **Table 6.10**). These habitats are relatively uncommon within the Site, with comparatively larger areas of the habitats present in the north-west and south-west of the Site. Wet modified bog is also present in the west of the Site. Blanket bog within the Site is comprised of M18 mire and M19 mire, with a small area of M3 (species-poor, generally characterised by colonising *Eriophorum angustifolium* on bare peat) community recorded once. Wet modified bog is comprised of the M20 *Eriophorum vaginatum* blanket mire community and M25a^ *Molinia caerulea – Potentilla erecta* mire *Erica tetralix* sub-community. The SNH Carbon and Peatland Map (**Figure 6.2 (Revised EIAR Volume 2a)**) shows that the Site contains no Class 1 or Class 2 peatland, which suggests that potential nationally

IEF	Nature Conservation Value	Relevant Legislation/Guidance & Justification
		important peatlands are unlikely to be present. The survey has confirmed the presence of peatland. It is recognised that this definition is not solely for nature conservation and so not directly applicable to evaluating the value of a peatland. The bog communities within the Site do not fall within the 'near-natural' classification and generally tend to represent areas of degraded or modified bog. Many areas of the remaining and remnant patches of blanket bog have been subject to various impacts and forms of disturbance and associated drying out, such as drainage, forestry plantation, historical mine works, grazing etc. In places this has also allowed encroachment and invasion of young trees and scrub which has resulted in blanket/modified bog in poor condition. Despite some of these communities being associated with Annex I and SBL blanket bog classifications, the habitat within the Site is not considered to be Nationally or Regionally important due to its size, condition and distribution. Therefore, assigning a Nature Conservation Value higher than Local is not deemed appropriate.
Bats (high collision risk species/genus: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, and Nyctalus spp.)	Local	All UK bat species are listed on Annex II of the Habitats Directive and fully protected through the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) ('The Habitats Regulations'). Nine species/genus (including common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and *Nyctalus* spp.) are listed on the SBL. Common and soprano pipistrelle are considered to have a favourable conservation status in the UK and Scotland under Article 17 of the Habitats Directive and are listed as Least Concern (LC) under the IUCN Red List criteria (Matthews et al., 2018, JNCC, 2019a and 2019b). Nathusius' pipistrelle have an 'Unknown' conservation status, and are listed as Vulnerable (VU) under the IUCN Red List criteria (Matthews et al., 2018); JNCC, 2019a). The Proposed Development is outwith the main areas of predicted occurrence and predicted activity for Nathusius' pipistrelle being located within the northern area of predicted Nathusius' pipistrelle occurrence (see Matthews et al., 2018). *Nyctalus* spp. comprise Leisler's bat and noctule bat. *Nyctalus* spp. are considered to have a favourable conservation status in the UK (unknown status specifically for Scotland), with noctule also listed as LC, and Leisler's as Near Threatened (NT), on the IUCN Red List (Matthews et al., 2018, JNCC, 2019c and 2019d). The Proposed Development is outwith the core areas of predicted occurrence and predicted activity for both *Nyctalus* spp., being located on the northern edge of predicted *Nyctalus* spp. occurrence (Matthews et al., 2018). Reliable population estimates for *Nyctalus* spp. in Scotland are currently not available with some currently used population estimates of only a few hundred bats (e.g., Harris et al., 1995) outdated and based on expert opinion. Actual populations in Scotland, and their distribution range, are now thought to be much larger than previously reported with

IEF	Nature Conservation Value	Relevant Legislation/Guidance & Justification
		populations suggested to be in the region of many thousands (Newson et al., 2017). The majority of bat activity recorded in 2020, 2021 and 2025 (94.9 %, 92.9 % and 80.7 % respectively) were attributed to common or soprano pipistrelle bats, which are considered to have a 'common' population relative abundance and are considered of 'medium' potential vulnerability (NatureScot et al., 2021). Nathusius' pipistrelle and Nyctalus spp. are considered to have 'rarest' population relative abundance and are considered of 'high' potential vulnerability (NatureScot et al., 2021). One Nathusius' pipistrelle call was recorded in 2025 (<0.01 % of bat activity), with 606 *Nyctalus* spp. registrations recorded in 2020, 188 registrations in 2021 and 534 registrations in 2025 (4.2 %, 3.6 % and 13.9 % respectively of bat activity recorded) (Table 6 4, Table 6 5 and Table 6 6). While the site supports a Nationally important bat assemblage for foraging and commuting bats overall (paragraph 6.6.18), given the lack of effects on low collision risk species, and therefore focusing only on the high collision risk bat assemblage, the site scores an importance level of 'County'[17]. Considering the above information, including a lack of potential bat roosts within the Site, the majority of species recorded being common and soprano pipistrelles, and the County importance level determined though guidance, a Nature Conservation Value of Local is considered suitable for high collision risk bat species.

6.7 Environmental Measures Embedded into the Development Proposals

Iterative Design Process

6.7.1 As part of the iterative design process for the Proposed Development, ecological constraints identified through baseline survey results were considered to avoid or reduce adverse effects on ecological features where possible. This includes:

- applying a minimum 50 m buffer for any infrastructure or construction activity around all watercourses, except where a minimum number of watercourse crossings are required. This will minimise effects on associated habitats and species;
- the track length and alignment has been designed to minimise the extent of new track and number of watercourse crossings required, where feasible, considering the topography of the Site and other environmental Site constraints;
- avoidance of deeper peatland (>0.5 m) and potential dominant GWDTEs for the location of turbines and other infrastructure as far as practicable;
- avoidance of blanket bog and wet modified bog as far a practicable, when siting turbines and tracks;

- establishing a minimum 50 m buffer from turbine blade tips to important edge habitats for bats across the Site to reduce collision risk;
- implement a 20 m avoidance buffer from potential hibernaculum near T19 and T20;
- Considered the location of the ponds and topography when siting T17 and the access track to T16 and T17; and
- establishing a 100 m buffer from active badger setts to site infrastructure to minimise disturbance to the species in line with best practice guidance.

Pre-Construction and Construction

6.7.2 Embedded mitigation measures for habitats and species, such as complying with best practice, micrositing provisions, presence of an ECoW and adherence to a detailed CEMP and SPP (**Technical Appendix 6.5**) will be implemented.

6.7.3 A suitably qualified ECoW will be appointed prior to the commencement of construction to advise the Applicant and the Principal Contractor on all ecological matters. The ECoW will be required to be present onsite during the construction phase and will carry out monitoring of works and briefings with regards to any ecological sensitivities on the Site to the relevant staff of the Principal Contractor and sub-contractors.

6.7.4 A SPP (outline SPP provided in **Technical Appendix 6.5**) will be finalised and implemented during the construction phase. The SPP details measures to safeguard protected species known or likely to be in the area. The SPP includes pre-construction surveys and good practice measures during construction. Pre-construction surveys will be undertaken to check for any new protected species or features in the vicinity of the construction works. The results of the pre-construction surveys will be used to update the outline SPP ahead of construction starting. The SPP will remain a live document to be updated as required and in agreement with the ECoW where changes to the distribution and status of protected species and features are recorded.

6.7.5 Any micrositing of infrastructure will be based on a review of existing ecological data and the findings of completed pre-construction surveys, to take into consideration the potential for direct encroachment onto protected species features, sensitive habitats or GWDTEs, or indirect alteration of hydrological flows supporting sensitive habitats or GWDTEs. Any micrositing will also take into consideration any buffer distances on protected features identified, as detailed within the SPP (Technical Appendix 6.5).

6.7.6 Contractual management will be required for the successful Contractor to develop and implement a comprehensive, site-specific and robust CEMP in consultation with the SEPA and the planning authority. This document will detail how the successful Contractor will manage the works in accordance with all commitments and mitigation detailed in the EIA Report, the SPP, statutory consents and authorisations, and good industry practice and guidance for environmental

management, including implementation of appropriate pollution prevention (particularly in relation to watercourses).

6.7.7 Based on the potential removal of barriers at Sundrum and Burnock Weir, the progress of this will be monitored and if the barriers are removed prior to consent and construction commencing, pre-construction fish surveys would be undertaken to assess any changes to the baseline as a result of the removal of the barriers.

Operation

6.7.8 In line with best practice guidance on bats (NatureScot et al., 2021) the Proposed Development will utilise the method of reduced rotation speed whilst idling by feathering, at all wind turbines, to reduce collision risks to bats during the bat active period (April to October). The guidance notes that, "The reduction in speed resulting from feathering compared with normal idling may reduce fatality rates by up to 50 %". Given the known presence of high collision risk bat species on-Site, this measure will be put in place from the start of the operational period of the Proposed Development, and it does not result in any loss of output.

6.7.9 Operational phase environmental management plans following relevant best practice and guidance will be in place during operation of the Proposed Development, these will for example include provisions for, but not limited to, ongoing pollution prevention control measures.

Decommissioning

6.7.10 Based on the time between construction and decommissioning, the mitigation required at decommissioning cannot be accurately identified at this stage. However, it would include pre-decommissioning surveys, adherence to the Decommissioning Environmental Management Plan (DEMP), presence of an ECoW and adherence to a SPP.

6.8 Assessment of Potential Effects

Potential Construction Effects

6.8.1 This section provides an assessment of the likely effects of the construction of the Proposed Development upon the scoped in IEFs, namely blanket bog and wet modified bog.

6.8.2 The most tangible effect during construction of the Proposed Development would be direct habitat loss due to the construction of infrastructure, such as new access tracks, turbines, hardstandings, substation, and battery energy storage system (BESS). Much of this infrastructure would be permanent, however the temporary construction compound areas, temporary crane pad sections and borrow pits would be restored at the end of construction.

6.8.3 There may also be some indirect habitat losses to wetland habitats due to drainage effects. For the purposes of this assessment, it is assumed that wetland habitat losses due to indirect drainage effects may extend out to 10 m from the proposed

infrastructure (i.e., in keeping with indirect drainage assumptions within the carbon calculator guidance (SEPA, undated)). It is expected that any indirect drainage effects would only impact wetland habitats such as blanket bog and wet modified bog. No indirect drainage effects are expected to impact or alter the quality or composition of non-wetland habitats such as plantation and woodland as only direct habitat loss applies to those habitats.

6.8.4 Temporary habitat losses due to the creation of four temporary construction compound areas (including the SPEN compound) and enabling works (including cut and fill earthworks) and up to three borrow pits have been calculated separately to permanent infrastructure. Although these areas would be restored at the end of the construction period (and therefore would not show a loss in habitat extent), the habitat type resulting after restoration may not be the same as the original due to changes in topographical or hydrological conditions. In particular, areas of land take for this temporary infrastructure may represent effectively permanent losses for habitat types such as blanket bog and wet modified bog due to the effects on the structure and function of the habitat type, and the complexities and long timescales involved in restoring or re-creating these particular habitat types.

6.8.5 **Table 6-8** details the estimated relative losses expected to occur for scoped in habitats, for all new permanent and temporary infrastructure (with habitat loss estimated for all habitat types presented in **Annex A**, **Table 6 11**).

Table 6 8 – Estimated Loss of IEF Habitats in Site for Permanent and Temporary Infrastructure

Habitat Type	Extent in Site (ha)	NVC Community or Habitat Type[18]	Direct Habitat Loss (ha)	Direct Habitat Loss as a % of Habitat Type	Indirect Habitat Loss (ha) in Site	Indirect Habitat Loss as a % of Habitat Type in Site
Permanent						
Blanket Bog	16.84	M3, M18a, M18b, M19, M19a	0.11	0.65	0.34	2.00
Wet Modified Bog	48.97	M20, M20a, M20b, M25a^	0.51	1.04	1.14	2.32
Temporary						
Blanket Bog	16.83	M3, M18a, M18b, M19, M19a	0.05	0.30	N/A	N/A
Wet Modified Bog	48.98	M20, M20a, M20b, M25a^	0.46	0.94	N/A	N/A

[18] Only specific IEF habitats, communities or features subject to habitat losses are presented within this table. Any IEF communities not listed here are not subject to any predicted direct or indirect habitat losses. Full details of habitat losses for all habitat types are presented in **Annex A**.

6.8.6 The following section assesses the effect of these losses for each IEF scoped into the assessment.

Blanket Bog and Wet Modified Bog

6.8.7 Effect: Effects upon blanket bog and wet modified bog habitats during construction would be direct (through habitat loss occurring during construction of the Proposed Development) and indirect (through potential drying effects upon neighbouring blanket bog and wet modified bog habitats) occurring from the construction phase into the operational phase. Direct loss would occur in areas where permanent infrastructure such as access tracks, turbines, hardstandings, substation and BESS are sited on these habitat types. The excavation of blanket bog and wet modified bog for temporary infrastructure may also lead to losses due to the long-term effect on the ecological and hydrological structure and function of the habitat type. In addition, there may be indirect losses as a result of drainage around infrastructure (precautionarily around 10 m from infrastructure is assumed (SEPA, undated)) and disruption to hydrological flows.

6.8.8 Nature conservation value: Local (as detailed in **Table 6 7**).

6.8.9 Conservation Status: Conservation Status of this habitat as assessed in the 2019 JNCC report on blanket bog is 'Unfavourable Bad' and 'Stable' at the UK level (JNCC, 2019j).

6.8.10 Magnitude of Effect: The UK has an estimated 2,182,200 ha of blanket bog (JNCC, 2019j) of which around 1,759,000 to 1,800,000 ha is in Scotland (JNCC, 2019f) (approximately 23 % of the land area) (JNCC, 2019k).

6.8.11 Blanket bog covers 16.84 ha (1.50 %) of the Site and is indicated by NVC communities M18, M19 and M3 (Annex A). As per **Table 6-8**, the direct habitat loss for blanket bog is predicted to be 0.11 ha of M19 due to permanent infrastructure, with up to an additional 0.05 ha of M19 due to temporary works areas, there are no predicted losses for the M3 or M18 communities (). This results in a potential total direct loss of 0.16 ha, equivalent to 0.95 % of the blanket bog within the Site.

6.8.12 Wet modified bog covers 48.97 ha (4.50 %) of the Site and is indicated by NVC communities M20 and M25a^ (Annex A). As per Table 6 8, the direct habitat loss for wet modified bog is predicted to be 0.51 ha (due to permanent infrastructure, with up to an additional 0.46 ha due to temporary works areas). This results in a potential total direct loss of 0.97 ha, equivalent to 1.98 % of the wet modified bog within the Site.

6.8.13 For this blanket mire resource as a whole, i.e., combining blanket bog and wet modified bog, direct losses amount to 0.62 ha for permanent infrastructure and 0.51 ha for temporary works areas and borrow pits: a total of 1.13 ha, or 1.72 %, of the combined resource within the Site.

6.8.14 In addition, there may be some indirect losses because of the zone of drainage around infrastructure. The actual distance of the effects of drainage on a peatland is highly variable and depends on various factors such as the type of peatland and its characteristics and properties of the peat; the type, size distribution and

frequency of drainage feature; and whether the drainage affects the acrotelm, penetrates the catotelm, or both. Consequently, drainage effects can be restricted to just a few metres around the feature or extend out to tens of metres, or further (see review within Landry & Rochefort (2012)). The hydraulic conductivity of the peatland is one of the key variables which affect the extent of drainage. In general, less decomposed more fibric peatlands (which tend to be found commonly in fen type habitats) generally have a higher hydraulic conductivity and drainage effects can extend to around 50 m, whilst in more decomposed (less fibrous) peat drainage effects may only extend to around 2 m. Blanket bog habitats commonly are associated with more highly decomposed peats (Nayak et al., 2008). For this assessment, indirect effects are assumed to extend out to 10 m from infrastructure.

6.8.15 If indirect drainage effects are fully realised out to 10 m in all blanket bog areas, then predicted losses increase by 0.34 ha for permanent infrastructure (**Table 6-8**). This worst-case scenario of direct and indirect habitat loss for permanent and temporary works areas is a total of 0.49 ha or 2.91 % of the blanket bog within the Site.

6.8.16 If indirect drainage effects are fully realised out to 10 m in all wet modified bog areas, then predicted losses increase by 1.14 ha for permanent infrastructure. This worst-case scenario of direct and indirect habitat loss for permanent and temporary works areas is a total of 2.10 ha or 4.29 % of the wet modified bog within the Site.

6.8.17 For this blanket mire resource as a whole, i.e., combining blanket bog and wet modified bog, direct and indirect losses for permanent and temporary works areas overall amount to 2.60 ha, or 3.95 % of the combined resource within the Site.

6.8.18 However, it is considered unlikely that indirect drainage effects of this scale (i.e., out to 10 m either side of infrastructure) would occur, or would have such an effect on the already degraded blanket bog / wet modified bog present in the Site to result in large-scale vegetation shifts to a lower conservation value habitat type (e.g., acid grassland). For instance, Stewart & Lance (1991) found that a lowering of the water table next to drains was slight and confined to just a few metres either side of the drain, on sloping ground the uphill zone of drawdown was even narrower. Subtle variations in plant species abundance were noted, with species dependent on high water-tables having a lower cover-abundance near to drains, and species with drier heathland affinities having higher cover than at places further away. However, there were no wholescale changes in vegetation or the species assemblage; for instance, declines in Sphagna moss cover were highly localised and took nearly 20 years to achieve statistical significance. Anecdotal observations from wind farms around Scotland also suggest that bog habitats readily persist around infrastructure and within this 10 m zone of possible influence.

6.8.19 It should also be noted that the predicted indirect losses due to drainage are calculated in GIS and based on the habitat survey mapping, there may be small-scale local specific factors such as those relating to natural breaks in hydrology, geology or topography, or the presence of forestry or non-wetland habitats that act

as a break, barrier or buffer, that would prevent the full predicted indirect drainage effects from materialising.

6.8.20 Overall, evidence suggests that if some drainage effects materialise locally around infrastructure due to the Proposed Development, the most likely effect will not be a major change in overall bog habitat type, but rather a potential change in vegetation micro-topography, certain species cover, or abundance that may result in a subtle NVC community or sub-community shift, and which may only be apparent in the long term. If severe indirect drying effects are observed long-term then blanket bog communities may transition towards modified bog, or modified bog may transition towards wet heath vegetation on deeper peat. These are still habitats of conservation interest, being Annex I and SBL Priority Habitats.

6.8.21 When considering the scale of the above habitat losses, and accounting for the abundance, distribution, and quality of the habitat within the Site, and locally, an effect magnitude of Low Spatial and Long-term Temporal is appropriate.

6.8.22 Significance of Effect: Given the above consideration of nature conservation value, Conservation Status and Magnitude of Effect, the effect significance is considered to be **Minor Adverse** and *Not Significant* under the EIA Regulations.

Potential Operational Effects

6.8.23 This section provides an assessment of the likely effects of the operation of the Proposed Development upon scoped in IEFs.

Habitats

6.8.24 All likely direct and indirect effects on habitats have been considered in the Predicted Construction Effects section above.

6.8.25 Although the majority of habitat loss is associated with infrastructure required for the operation of the Proposed Development (rather than temporary construction infrastructure), the physical loss of habitat would occur during the construction stage and is therefore considered above.

6.8.26 Any indirect effects on wetland habitats would largely occur during the operational phase as potential drying effects become established. However, for ease and clarity assessing effects on habitats, these are considered together within Predicted Construction Effects.

Bats

6.8.27 Effect: During the operational phase, there is potential for collision risk upon commuting and foraging bat species, together with the risk that bats may be affected by barotrauma [19] when flying in close proximity to moving turbine blades. For the purposes of this assessment, the potential effects from barotrauma are assumed to

[19] Barotrauma describes injuries that occur when a bat (or other animal) encounters sudden and extreme changes in atmospheric pressure. The rapid pressure fluctuations can rupture air-containing structures in the bodies of mammals which causes internal bleeding and, potentially, death.

be the same as for collision risk. This is due to the lack of published empirical evidence in causes of bat fatalities around wind farms and the difficulties in determining whether bat fatalities are due to strikes (collisions) with turbine blades or barotrauma.

6.8.28 Research undertaken by Exeter University on behalf of DEFRA (DEFRA, 2016) found that most bat fatalities at UK wind farms have been common pipistrelle, soprano pipistrelle and noctule (e.g., *Nyctalus* spp.) bats. Further work (Richardson et al., 2021) found that common pipistrelle activity was higher at turbine locations than at control locations in similar habitat, suggesting that this species may be at particular risk. In the same study, soprano pipistrelle activity was comparable between sites with no attraction or repulsion by wind turbines. It is suggested the observed higher levels of activity could be because there are more individual bats around wind turbines, or because bats spend more time in these locations relative to controls, even if the number of individual bats remains the same; however, it is not possible to distinguish between these possibilities using acoustic bat data (Richardson et al., 2021).

6.8.29 As the turbines have a blade tip height of 149.9 m, there is no requirement for visible lighting, but infrared lighting may be required on some of the turbines. A five-year study by Spoelstra et al. (2017) concluded that foraging bats are not attracted to red lighting. The reason for this is that white and green spectrum lights attract foraging insects whilst red lights do not. Based on this, Spoelstra et al. (2017) advised, "Hence, in order to limit the negative impact of light at night on bats, white and green light should be avoided in or close to natural habitat, but red lights may be used if illumination is needed". A study by Voigt et al. (2018) found evidence of attraction of migratory soprano pipistrelle to red lighting. Soprano pipistrelles do not migrate in the UK as they do in continental Europe, so this finding is not relevant to the Proposed Development. However, the explanation for contrasting findings by Spoelstra et al. (2017) is that "migratory bats may be more susceptible to light sources of specific wavelength spectra because vision may play a more dominant role than echolocation during migration. Non-migratory bats might use orientation cues that are more involved during general hunting behaviour, for example, echoes reflected from local landmarks, instead of cues from natural or artificial light sources".

6.8.30 Bats may also be displaced from their foraging grounds through avoidance of operational wind turbines (Scholz and Voigt, 2022). Barré et al. (2018) recorded a marked reduction in bat activity around operational wind turbines.

6.8.31 Nature conservation value: Local (as detailed in **Table 6-7**).

6.8.32 Conservation Status: Common pipistrelle are assessed in the 2019 JNCC report (JNCC, 2019a) as 'Favourable' and 'Improving' at the UK level, soprano pipistrelle are assessed as 'Favourable' and 'Stable' at the UK level (JNCC, 2019b); there is insufficient data for the conservation status of Nathusius' pipistrelle to be assessed under Article 17 of the Habitats Directive; and noctule (JNCC, 2019c) and Leisler's bat (i.e. Nyctalus spp.) (JNCC, 2019d) populations are assessed as 'Favourable'

and 'Stable' at the UK level. Mathews et al. (2018) also consider common pipistrelle, soprano pipistrelle and Nyctalus spp. to have a 'Favourable' conservation status.

6.8.33 Further details on the Conservation Status of the high collision risk bat species recorded within the Site are provided below. Information on both noctule and Leisler's bats are presented as registrations for both species and genera were present, however these bats are assessed at the genus level (i.e., *Nyctalus* spp.) (**Technical Appendix 6.3**).

6.8.34 Both common and soprano pipistrelle are widespread in Scotland however there is insufficient data to estimate the population range for Nathusius' pipistrelle. The low population estimates for *Nyctalus* spp. in Scotland are outdated and likely underestimated due to under-recording (Mathews et al., 2018). The survey data indicates that both noctule and Leisler's bats may be present at the Site. Studies by Newson et al (2017) have shown a general east-west geographical divide between the species distribution in southern Scotland; with Leisler's bat occurring in the west and noctule mainly in the east. With the Proposed Development located in the west of the research area, this may suggest a greater likelihood of Leisler's being present.

6.8.35 The estimated population of common pipistrelle in 2019 ranged from 1,100,600 to 7,843,000 in the UK (JNCC, 2019a), and from 285,000 to 2,160,000 in Scotland (JNCC, 2019c), although best single value estimates are not provided due to the uncertainty around population estimates. Matthews et al. (2018) provided a UK estimate of 3,040,000 (with a plausible range of 991,000 – 7,510,000); population estimates for Scotland were not provided in that review.

6.8.36 For soprano pipistrelle, the population was estimated to be from 2,024,000 to 8,563,000 in the UK (JNCC, 2019b), and from 512,000 to 2,180,000 in Scotland (JNCC, 2019d), although best single value estimates are not provided due to the uncertainty around population estimates. Matthews et al. (2018) provided a UK estimate of 4,670,000 (with a plausible range of 970,000 – 8,400,000); population estimates for Scotland were not provided in that review.

6.8.37 There is insufficient data to estimate the population range for Nathusius' pipistrelle.

6.8.38 There is no recent population estimate available for Leisler's bat across the UK (Mathews et al., 2018; JNCC, 2019e) or Scotland (JNCC, 2019f), and there is limited accurate data on trends, and population changes, meaning that the detailed population status of this species in the UK and Scotland is currently unknown. However, Newson et al. (2017) in their study stated that the previously used population estimates in Scotland of only a few hundred bats are outdated, with their research indicating actual populations of *Nyctalus* spp. in Scotland, and their distribution range, are much larger than previously reported, with populations suggested to be in the region of many thousands.

6.8.39 The 2019 Article 17 of the UK Habitats Directive Report estimates the noctule bat population range to be from 20,600 to 2,176,000 in the UK (JNCC, 2019g) with no population value provided for Scotland (JNCC, 2019h). Matthews et al. (2018) did not provide a UK population estimate; countrywide estimates were provided for

England (565,000 with a plausible range of 17,700 – 1,872,000) and Wales (91,900 with a plausible range of 2,900 – 304,000); no estimate was provided for Scotland. As for Leisler's, above, Newson et al. (2017) in their study stated that the previously used population estimates in Scotland of only a few hundred bats are outdated, with their research indicating actual populations of *Nyctalus* spp. in Scotland, and their distribution range, are much larger than previously reported, with populations suggested to be in the region of many thousands.

6.8.40 Magnitude of Effect: Evaluating the vulnerability of a bat population to wind farms is based on three factors: activity level recorded, population vulnerability (determined by collision risk of species and population size), and site risk level. These factors are multiplied to generate an overall risk assessment score per species of either Low (0-4), Moderate (5-12) or High (15-25) in line with NatureScot et al. (2021) guidance. **Technical Appendix 6.3** sets out the detailed methodology and results from this risk assessment for each high collision risk species. **Figures 6.7 – 6.16** also present overall risk levels for high-risk species based on the results of the monitoring undertaking at locations across the Site in 2020, 2021 and 2025. A summary is provided further below to inform the assessment. Evidence in the UK demonstrates that most bat activity is close to habitat features e.g., woodland or wetlands. Foraging habitat quality and connectivity in the Site is Moderate, with small open watercourses and conifer plantation edges. The Site risk level for the Proposed Development has been categorised as 'Medium', based on having a 'Medium' project size and a 'Moderate' habitat risk (**Technical Appendix 6.3**).

6.8.41 Activity levels (based on median and maximum percentiles) were recorded for the following high collision risk bat species in 2020, 2021 and 2025; these are summarised in **Table 6-9**.

Table 6-9 – Risk Assessment Scores Based on Median and Maximum Percentiles for High Collision Risk Species in 2020, 2021 and 2025

Species/ Species Group	2020		2021		2025	
	Median Percentile	**Maximum Percentile**	**Median Percentile**	**Maximum Percentile**	**Median Percentile**	**Maximum Percentile**
Common pipistrelle	Medium (12)	High (15)	Medium (6)	High (15)	Low (3)	Low (3)
Soprano pipistrelle	Medium (12)	High (15)	Medium (6)	High (15)	Low (3)	Medium (6)
Nathusius' pipistrelle	No records	No records	No records	No records	High (15)	High (15)
Nyctalus spp.	Medium (12)	High (15)	Medium (6)	High (15)	Low (3)	High (15)

6.8.42 **Figures 6.7 - 6.16** show the bat Site activity risk assessment categories per month and per Anabat location based on the median percentile for the study area in 2020, 2021 and 2025. As can be seen in these figures, the risk level varied temporally and spatially between April and October. The 2020 and 2021 figures show a range of 'Low' to 'High' risk locations for common pipistrelle, soprano pipistrelle, or *Nyctalus* spp. The 2025 figures also show there were no 'High' risk locations for common

pipistrelle, soprano pipistrelle, or *Nyctalus* spp. There was one 'High' risk location for Nathusius' pipistrelle in May. Further context on each high collision risk species is provided further below.

6.8.43 The embedded mitigation described in **Section 6.7** - Environmental Measures Embedded into the Development Proposals, with respect to bats, namely reduced rotor speed when idling by feathering, will be implemented throughout operation during the bat active period (April to October), reducing the risk of bat fatalities. The guidance by NatureScot et al. (2021) notes that, *"The reduction in speed resulting from feathering compared with normal idling may reduce fatality rates by up to 50%"*. The presence of this mitigation measure has been considered when assigning the Significance of Effect.

6.8.44 Common pipistrelle: As shown in **Figure 6.7**, analysis of the risk assessment scores for common pipistrelle in 2020, when based on the median percentile, indicate varied levels of activity across the majority of survey locations throughout the year. Peaks in bat activity were in May with a High risk assessment score at Location 6,at Locations 6 and 7 in June/July[20] with a High risk assessment at Location 4; and in August with a High risk assessment score at Locations 1, 2, 6, 7, 8 and 9. Other locations across the months have a risk assessment score between 3 (Low overall risk) and 12 (Medium overall risk), or no activity. The closest high risk assessment score for common pipistrelle to a wind turbine was recorded at Location 4 in July (High risk (15)). This location was situated roughly 150 m from T5. Location 4 was situated in a location where higher bat activity would be expected, situated along a commuting plantation edge and near a watercourse with foraging resources. Bats are known to use woodland edges as commuting corridors, and the watercourse provides foraging opportunities.

6.8.45 As shown in **Figure 6.10**, analysis of the risk assessment scores for common pipistrelle in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations 3, 5, 10, 11 and 12 all having a risk assessment score of either 3 (Low overall risk) or 6 (Medium overall risk) in May, July/August [21]. Location 4 recorded no data in May and no data was recorded at Location 3 in September and October [22]. Peaks in bat activity were in July/August with High risk assessment scores at Location 6, 7, 8 and 9. The closest high risk assessment score for common pipistrelle to a wind turbine was recorded at Location 7 in July/August (High risk (15)). This location was situated roughly 187 m from T20. Location 7 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

6.8.46 As shown in **Figure 6.13**, analysis of the risk assessment scores for common pipistrelle in 2025, when based on the median percentile, indicate consistent levels of activity across the majority of survey locations throughout the year, with all Locations having a risk assessment score of 3 (Low overall risk) in each survey

[20] Visit 2 in summer was deployed over June and July.

[21] Visit 2 in summer was deployed over July and August.

[22] Visit 3 in autumn was deployed over September and October.

Visit, with the exception of Location 4 in June that recorded no data. No High or Medium overall risk scores were recorded.

6.8.47 An effect magnitude of low spatial and long-term temporal is considered appropriate for common pipistrelle.

6.8.48 Soprano pipistrelle: As shown in **Figure 6.8**, analysis of the risk assessment scores for soprano pipistrelle in 2020, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Peaks in bat activity were in April with a High risk assessment score at Location 6 and in August with High risk assessment scores at Locations 6, 7, 8 and 9. The closest high risk assessment score for soprano pipistrelle to a wind turbine was recorded at Location 7 in August (High risk (15)). This location was situated roughly 176 m from T11. Location 7 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge.

6.8.49 As shown in **Figure 6.11**, analysis of the risk assessment scores for soprano pipistrelle in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Location 4 recorded no data in May and no data was recorded at Location 3 in September and October. Peaks in bat activity were recorded in July and August at Location 9, Location 6 in July and Location 9a in September and October, indicating High risk (risk assessment scores of 15). The closest high risk assessment score for soprano pipistrelle to a wind turbine was recorded at Location 9 in July and August (High risk (15)). This location was situated roughly 256 m from T13. Location 9 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

6.8.50 As shown in **Figure 6.14**, analysis of the risk assessment scores for soprano pipistrelle in 2025, when based on the median percentile, indicate consistent levels of activity across the majority of survey locations throughout the year, with all Locations having a risk assessment score of 3 (Low overall risk) in each survey Visit, with the exception of Location 4 in June that recorded no data in June. No High or Medium overall risk scores were recorded. Location 4 in June recorded no data, with the other months recording a risk assessment score of 3 (Low overall risk).

6.8.51 An effect magnitude of low spatial and long-term temporal is considered appropriate for soprano pipistrelle

6.8.52 *Nyctalus* spp.: As shown in **Figure 6.9**, analysis of the risk assessment scores for *Nyctalus* spp. in 2020, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk), or no data, in each survey Visit. Peaks in bat activity with a High risk assessment score were in May at Location 1, June at Locations 5

and 8 and July at Location 7. The closest high risk assessment score for Nyctalus spp. to a wind turbine was recorded at Location 5 in August (High risk (15)). This location was situated roughly 52 m from T4. Location 5 was situated in a location where higher bat activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

6.8.53 As shown in **Figure 6.12**, analysis of the risk assessment scores for Nyctalus spp. in 2021, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations generally having a risk assessment score of 3 (Low overall risk) to 12 (Medium overall risk) in each survey Visit. Location 4 recorded no data in May and no data was recorded at Location 3 in September and October. No High risk bat activity was recorded across the season with peaks in bat activity in July with risk assessment scores of 12 at Locations 6, 9 and 12 and Location 9 in August, indicating Medium risk. The closest high risk assessment score for *Nyctalus* spp. to a wind turbine was recorded at Location 9 in July and August (Medium risk (12)). This location was situated roughly 256 m from T13.

6.8.54 As shown in **Figure 6.16**, analysis of the risk assessment scores for *Nyctalus* spp. in 2025, when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with Locations 3, 4 and 5 all having a risk assessment score of 3 (Low overall risk) or no activity in each survey Visit, with the exception of Location 4 in June that recorded no data. Peaks in bat activity in June with risk assessment scores of 6 and 9 at Locations 1 and 2 indicating Medium risk. The highest risk assessment score for *Nyctalus* spp. was recorded at Location 2 in June (Medium risk (9)). This location was situated roughly 155 m from T2. Location 2 was situated in a location where higher bat activity would be expected, situated along a commuting plantation edge and near a watercourse with foraging resources.

6.8.55 An effect magnitude of low spatial and long-term temporal is considered appropriate for *Nyctalus* spp.

6.8.56 Nathusius' pipistrelle: No Nathusius' pipistrelle were recorded in 2020 or 2021. As shown in **Figure 6.15**, in 2025, only Location 5 in May recorded a High risk assessment score of 15. All other locations recorded no activity (Location 4 in June recorded no data). Although one location recorded a High risk assessment based on the median percentile, the reference range for Nathusius' pipistrelle was 1. For a reliable result a reference range of 200 and above is recommended, therefore the result is treated with caution, particularly in light of the low number of Nathusius' pipistrelle registrations actually recorded (i.e., only 1 registrations (over 193 data nights) and <0.1% of total bat passes). Location 5 was situated roughly 115 m from the nearest turbine (T10). Location 5 was situated in a location where higher bat

activity would be expected, also situated along a commuting plantation edge and near a watercourse with foraging resources.

6.8.57 An effect magnitude of negligible-low spatial and long-term temporal is considered appropriate for Nathusius' pipistrelle.

6.8.58 For each species discussed above, there were some areas of relative higher bat activity/risk recorded, these were generally along plantation edges and watercourses as expected. As part of the design mitigation, there would be minimum 50 m buffer from turbine blade tips to important edge habitats for bats (woodland and watercourses). As part of the embedded mitigation, there would be turbine curtailment during operation. While there may be an effect on individuals, the assessment determines that the effect would be unlikely to occur in sufficient numbers to affect the local populations.

6.8.59 Significance of Effect: Given the above consideration of Nature Conservation Value, Conservation Status and Magnitude of Effect, along with design and embedded mitigation, the effect significance of collision risk on all high collision risk bat species recorded at the Site is considered **Minor Adverse** and *Not Significant* under the EIA Regulations.

Potential Decommissioning Effects

6.8.60 Due to the distant time frame until their occurrence (40 years), decommissioning effects are difficult to predict with confidence. In general, decommissioning effects are usually considered for the purposes of assessment to be similar to (or likely less than) those of construction effects in nature and are likely to be of shorter duration. Prior to decommissioning, a Decommissioning Environmental Management Plan (DEMP) would be prepared and agreed with the relevant statutory consultees, which would include the need for pre-works surveys.

6.8.61 The decommissioning of the Proposed Development would involve the removal of most of the above ground elements and restoration of the associated ground (details provided in **Chapter 2: Proposed Development**). Restoration would seek to return areas to their pre-construction habitat type, or as similar as feasible depending on local substrates, topography, hydrology etc. As a result, decommissioning will not lead to any further direct or indirect habitat losses above

those already occurred during construction, rather, it is predicted that due to restoration of habitats in these areas, there would be a net positive effect.

6.9 Mitigation

Construction Phase

6.9.1 General and embedded mitigation (**Section 6.8**) measures for habitats and species, such as complying with best practice, micrositing, presence of an ECoW and adherence with a detailed CEMP and SPP will be followed.

6.9.2 No significant construction effects were identified, and no non-standard mitigation is proposed for the construction phase.

6.10 Enhancement

6.10.1 A number of additional mitigation, compensation and significant enhancement measures are proposed as part of the Outline Biodiversity Enhancement Management Plan (OBEMP), as detailed in **Technical Appendix 6.6** and outlined below.

6.10.2 Enhancement and restoration of habitats through the delivery of a BEMP would reduce effects on habitats further. Overall, the BEMP would deliver significant biodiversity enhancement, in line with objectives outlined in NPF4 Policy 3, the Onshore Wind Policy Statement and the Scottish Biodiversity Strategy to 2045.

6.10.3 At the time of writing, the areas available for enhancement (and the type of enhancement proposed for those areas) were in the process of being discussed and agreed with Forestry and Land Scotland (the landowner), Breezy Hill Energy Project (the Applicant), the developer of neighbouring North Kyle Energy Project, (The Applicant) and East Ayrshire Council. Through extensive discussions with the landowner (paying particular cognisance to the emerging Land Management Plan for the Site (FLS, 2025), assessment of the Final Habitat Management Plan (FHMP) for neighbouring North Kyle Energy Project (MacArthur Green, 2022), and consultation with East Ayrshire Council regarding their landscaping work completed at North Kyle Energy Project, the Applicant is committed to work alongside to complement the aforementioned plans to provide biodiversity enhancement on a landscape scale, providing significant biodiversity enhancements to the local area.

6.10.4 Measures in the OBEMP include forest to bog restoration, the creation of native woodland, scrub planting and heath-acid grassland mosaic creation. Brockwell Energy are committed to working alongside the Habitat Management Plans discussed above and providing a Biodiversity Net Gain of 25 % for the Proposed Development. This is discussed further in **Technical Appendix 6.6** and **Figure 6.18**.

6.10.5 Creation of native broadleaved woodland and riparian habitat through the delivery of the BEMP, as detailed in Technical Appendix 6.6: Outline BEMP, would create and enhance bat foraging and commuting habitat within the Site and locally, and in the long term potentially provide roost features distant from any proposed turbines.

Overall, beneficial operational effects have been identified via the Outline BEMP, as outlined in the Potential Operational Effects section above.

6.10.6 The detailed BEMP will be submitted to and approved by East Ayrshire Council and NatureScot in advance of construction and would ensure the Proposed Development secures significant biodiversity enhancements through restoring degraded habitats and strengthening nature networks.

6.11 Assessment of Residual Effects

6.11.1 No significant adverse residual effects have been identified with all scoped in IEFs remaining as Minor Adverse, or Minor Beneficial, and *Not Significant*. With the implementation of the BEMP during the operational phase, the Applicant are committed to providing a BNG of 25 % for the Proposed Development which is considered to be Minor-Moderate Beneficial and potentially *Significant*.

6.12 Assessment of Cumulative Effects

Potential Cumulative Effects

6.12.1 The primary concern regarding the assessment of cumulative effects is to identify situations where effects on habitats or species populations that may be non-significant from individual developments, are judged to be significant when combined with nearby existing or proposed projects. In the interests of focusing on the potential for similar significant effects, this assessment considers the potential for cumulative effects with other wind farm developments within 5 km of the Site. Only wind farms at the application stage (consented or in planning) are considered, as those sites that are operational or under construction are considered part of the baseline within 5 km of the Site. Wind farm projects at scoping stage have been scoped out of the cumulative assessment because they generally do not have sufficient information on potential effects to be included, as the baseline survey period is ongoing, or results have not been published. Projects that have been refused or withdrawn have also been scoped out.

6.12.2 Small projects with three or fewer turbines have also been excluded from the cumulative assessment as often these projects are not subject to the same level of detail of assessment, and so there are no directly comparable data. Because of the small scale of such projects, effects are likely to be negligible on the IEFs assessed.

Construction

6.12.3 Blanket bog and wet modified bog, i.e., the habitat IEFs considered in relation to the Proposed Development (as per above), have been scoped out of the cumulative assessment. Based on the limited extent of the habitat within the Site, it is considered unlikely that any significant ecological cumulative effects will arise as a consequence of the Proposed Development adding to habitat loss associated with

other projects (this applies to both the construction phase and also any limited drainage effects which may continue into the operational phase).

6.12.4 In general, for wind farm developments, mitigation and/or additional management/restoration/enhancement/creation of habitats is usually proposed to compensate and offset any effects on IEFs. These mitigation and enhancement areas also tend to be larger or many orders of magnitude greater than the area of predicted loss. The requirement for each development project to provide significant biodiversity enhancement is also now imperative through NPF4 Policy 3. The Proposed Development proposes significant biodiversity enhancement via a BEMP (OBEMP included in **Technical Appendix 6.6**).

6.12.5 Based on the above criteria, this section has assessed two wind farms at the Application stage, within 5 km of the Site; Overhill and Knockkippen. A Habitat Management Plan has been submitted as part of the consent application for both Overhill and Knockkippen Wind Farms. A third wind farm; North Kyle Energy Project, near the end of the construction phase at the time of writing, is also considered. A Habitat Management Plan has been prepared for North Kyle Energy Project and will be implemented at the start of the operational phase.

6.12.6 Therefore, it is considered unlikely that any significant residual cumulative effects at a local or regional level will arise as a consequence of the Proposed Development adding to habitat loss associated with other projects. This is due to the small nature and not significant levels of habitat losses associated with the Proposed Development and the Applicant's commitment to the delivery of a BEMP for the Proposed Development which would include provisions for the maintenance, creation, restoration and/or enhancement of various habitats and would be used to provide significant biodiversity enhancements in line with NPF4. As such, no adverse cumulative effects are predicted. Based on the above commitments, the effect significance is considered to be Minor – Moderate Beneficial and potentially Significant under the EIA Regulations.

Operation

6.12.7 Bats may be affected by cumulative wind farm developments because of the distances that some foraging bats travel, and the cumulative risks to bat populations because of barotrauma and/or collision with wind turbines during operation. High collision risk species recorded at the site in 2020, 2021 and 2025 were common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and *Nyctalus* spp. These species are all considered here to be of Site nature conservation value (**Table 6-6**) with common pipistrelle, soprano pipistrelle and *Nyctalus* spp. having Favourable Conservation Status. There is insufficient data for the conservation status of Nathusius' pipistrelle to be assessed under Article 17 of the Habitats Directive.

6.12.8 In considering any predicted cumulative effect that may materialise as a result of the addition of the Proposed Development it is important to note the following:

- the now-standard application of embedded mitigation in the form of buffer distances between turbine blade tip and habitat features such as forest edges and wetlands to minimise effects on foraging and commuting bats;

- the watercourse buffers that are incorporated into wind farm designs as standard;
- the now-standard adoption of reduced rotor speed when idling, by feathering;
- the minor adverse and non-significant effect of the Proposed Development and Knockkippen Wind Farm, combined with the negligible and non-significant effect of Overhill Wind Farm Wind Farm on bat species; and
- the Moderate risk assessment scores for the Proposed Development and Knockkippen Wind Farm, combined with the minor adverse and non-significant effect of Overhill Wind Farm for all high collision risk species.

6.12.9 With the mitigation for bats already incorporated into the Proposed Development as noted above, and with similar mitigation at Knockkippen Wind Farm Overhill Wind Farm, and North Kyle Energy Project, and further considering their distribution, population size, sensitivity and Conservation Status (as discussed above), cumulative effects on common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and *Nyctalus* spp., are considered to **Minor Adverse** and *Not Significant* in the context of the EIA Regulations.

6.13 Monitoring

Construction Phase Monitoring

6.13.1 Construction Phase Monitoring would comply with a CEMP developed by the Principal Contractor and would be implemented by an Environmental Manager, and ECoW where required, while being independently and periodically monitored and reported on by suitably experienced Environmental Clerk of Works (EnvCoW) (refer to **Revised Chapter 4 (Volume 1)** for more detail on roles and responsibilities for implementation of environmental mitigation measures). Such monitoring would also consider the SPP (**Technical Appendix 6.5** (**Revised EIA Report Volume 3**)).

Operational Phase Monitoring

6.13.2 As identified through consultation (**Table 6-1**), a programme of post-construction monitoring for bat will be undertaken for a minimum of 3 years (NatureScot), and monitoring of fish populations will be undertaken (Fisheries Management Scotland). Bat monitoring would comply with a detailed Bat Mitigation and Monitoring Plan (BMMP) or similar, which would also include that if the annual monitoring concludes

the mitigation is not enough then amendments to the curtailment/further mitigation would be proposed.

6.13.3 Operational Phase Monitoring would include monitoring of the progress and success of implementation of a BEMP (OBEMP provided in **Technical Appendix 6.6**).

Decommissioning Phase Monitoring

6.13.4 None identified at this stage.

6.14 Summary

6.14.1 There are no sites designated for ecological features within the Site; there are three sites designated for ecological features located within 5 km of the Site; Barlosh Moss SSSI is located approximately 3.4 km (at the closest point) to the north of the Site and Dalmellington Moss SSSI and Bogton Loch SSSI are located approximately 4.1 km and 4.7 km (at the closest point) to the south of the Site respectively (**Figure 6.1**).

6.14.2 Baseline studies have established that the Site is dominated by coniferous plantation woodland. The main habitats of interest are blanket bog and wet modified bog; they are limited in extent and present mainly in the north of the Site. Furthermore, the Site and adjacent habitats are used by badger ; setts and prints, otter; spraints, pine marten ; potential scat, red squirrel ; individual recorded as well as potential feeding signs and a potential drey); water vole; burrow and feeding signs, common lizard; sighting of an individual, brown trout and up to eight species of foraging / commuting bat. A potential feature that could be used by hibernating reptiles was also recorded.

6.14.3 Embedded mitigation (**Section 6.8**) and pre-construction checks (as directed by an appointed suitably qualified ECoW will enable the protection of protected habitats and species during construction works associated with the Proposed Development.

6.14.4 In addition to habitat reinstatement following the cessation of construction works, the Proposed Development also provides a clear opportunity to deliver long-term beneficial habitat enhancement measures for habitats and species, away from operational infrastructure, including forest to bog restoration, and broadleaved woodland planting (riparian and larger areas). A BEMP will be implemented to achieve this.

6.14.5 Residual effects upon any important ecological features are predicted to be Not Significant as a result of the Proposed Development alone, or in combination with, any other wind farm development.

6.14.6 For all IEFs assessed above, the predicted residual levels of significance of effects during the construction, operational and decommissioning phases of the Proposed Development, alone or cumulatively with other projects, are considered to be no more than **Minor Adverse** and therefore *Not Significant*. The summary of potential significant effects of the Proposed Development are discussed in **Table 6-10**.

Table 6-10 – Summary of Potential Effects

Description of Effect	Significance of Potential Effect		Enhancement / Mitigation Measures	Significance of Residual Effect	
	Significance	Beneficial / Adverse		Significance	Beneficial / Adverse
During Construction & Decommissioning					
Loss of habitat: blanket bog & wet modified bog	Minor	Adverse	Specific Mitigation: None. Enhancement: Implementation of a BEMP (OBEMP provided in **Technical Appendix 6.6** (**EIAR, Volume 3**) which includes bog and upland habitat restoration.	Minor - Moderate	Beneficial
During Operation					
Bats (high-risk collision species/genus: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Nyctalus spp.)	Minor	Adverse	Specific Mitigation: None. Enhancement: Implementation of a BEMP (OBEMP provided in **Technical Appendix 6.6** (**EIAR, Volume 3**) which includes habitat creation which would enhance the Site for foraging bats.	Minor	Adverse
Cumulative Effects					
None Identified	N/A	N/A	N/A	N/A	N/A

6.15 Annex A

Table 6-11 – Habitat Baseline Composition and Habitat Loss Calculations for Site.

		Site (Baseline)				Permanent Direct Loss		Permanent Infrastructure Indirect Loss (only applies to Wetland Habitats)[23]		Temporary Direct Loss	
Phase 1 Description (code)	**NVC**	**Phase 1 Area (ha)**	**Phase 1 % of Site**	**NVC Area (ha)**	**% of NVC Type within Site**	**NVC Area (ha)**	**% Loss of Phase 1 Type within Site**	**NVC Area (ha)**	**% Loss of Phase 1 Type within Site**	**NVC Area (ha)**	**% Loss of Phase 1 Type within Site**
Totals		**1087.44**	**100.00**	**1087.44**	**100.00**	**18.54**	**1.70**	**4.01**	**0.37**	**14.31**	**1.32**
Broad-Leaved Semi-Natural Woodland (A1.1.1)	W7	0.93	0.09%	0.90	0.08%	<0.01	0.05%	0.00	0.00%	<0.01	0.05%
	W4			0.03	0.00%	0.00		0.00		0.00	
Broad-Leaved Plantation Woodland (A1.1.2)	W14 (p)	14.26	1.31%	0.11	0.01%	0.00	1.63%	0.00	0.00%	0.00	0.31%
	W4(p)			2.73	0.25%	0.07		0.00		0.02	
	W7(p)			11.42	1.05%	0.16		0.00		0.03	
Coniferous Plantation Woodland (A1.2.2)	YCP	629.02	57.84%	77.83	7.16%	2.78	1.76%	0.00	0.00%	1.67	1.59%
	CP			551.19	50.69%	8.26		0.00		8.36	
Scattered Broad-Leaved Tree (A3.1)	SBT	0.15	0.01%	0.15	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Scattered Coniferous Tree (A3.2)	SCT	1.14	0.10%	1.14	0.11%	0.02	1.39%	0.00	0.00%	<0.01	0.32%
Recently Felled Coniferous Woodland (A4.2)	CF	191.06	17.57%	156.46	14.39%	1.33	0.70%	0.00	0.00%	0.84	0.44%
	CF>M23b			7.84	0.72%	0.00		0.00		0.00	
	CF>M19a			1.75	0.16%	0.00		0.00		0.00	
	CF>W7			0.10	0.01%	0.00		0.00		0.00	
	CF>M25			0.50	0.05%	<0.01		0.00		<0.01	

[23] Based upon the precautionary 10 m indirect drainage assumption.

		Site (Baseline)				Permanent Direct Loss		Permanent Infrastructure Indirect Loss (only applies to Wetland Habitats)[23]		Temporary Direct Loss	
	CF>U4			1.24	0.11%	0.00		0.00		0.00	
	CF>M25a			6.41	0.59%	0.00		0.00		0.00	
	CF>M25b			6.66	0.61%	0.00		0.00		0.00	
	CF>U4d			1.94	0.18%	0.00		0.00		0.00	
	CF>M6c			1.83	0.17%	<0.01		0.00		<0.01	
	CF>Je			3.22	0.30%	<0.01		0.00		<0.01	
	CF>OV27			2.90	0.27%	0.00		0.00		0.00	
	CF>U2a			0.10	0.01%	0.00		0.00		0.00	
	CF>MG9			0.11	0.01%	0.00		0.00		0.00	
Unimproved Acid Grassland (B1.1)	U6	31.98	2.94%	0.55	0.05%	0.00	1.33%	0.00	0.00%	0.00	1.89%
	U5			1.64	0.15%	0.00		0.00		0.00	
	U4d			15.74	1.45%	0.08		0.00		0.16	
	U4a			0.21	0.02%	0.00		0.00		0.00	
	U4			13.84	1.27%	0.35		0.46		0.45	
Semi-Improved Acid Grassland (B1.2)	U4b	19.35	1.78%	19.35	1.78%	0.79	4.07%	0.00	0.00%	0.58	2.98%
Unimproved Neutral Grassland (B2.1)	MG9a	6.95	0.64%	0.10	0.01%	0.00	0.56%	0.00	1.45%	0.00	0.18%
	MG9			6.85	0.63%	0.04		0.10		0.01	
Marsh / Marshy Grassland (B5)	M28	82.35	7.57%	0.02	0.00%	0.00	0.72%	<0.01	2.10%	0.00	1.01%
	MG10a			11.57	1.06%	0.18		0.18		0.22	
	M25b			17.43	1.60%	0.09		0.49		0.04	
	M25a			4.97	0.46%	0.01		0.06		<0.01	
	Ja			5.18	0.48%	0.02		0.02		0.04	
	M23			3.18	0.29%	<0.01		<0.01		0.03	
	Je			11.65	1.07%	0.06		0.31		0.03	

		Site (Baseline)				Permanent Direct Loss		Permanent Infrastructure Indirect Loss (only applies to Wetland Habitats)[23]		Temporary Direct Loss	
	M25			0.58	0.05%	0.00		<0.01		0.00	
	M23b			23.30	2.14%	0.16		0.62		0.35	
	M23a			4.47	0.41%	0.06		0.03		0.13	
Tall Ruderal (C3.1)	OV27	0.92	0.08%	0.44	0.04%	<0.01	0.10%	0.04	0.00%	<0.01	0.18%
	OV24			0.18	0.02%	<0.01		0.05		<0.01	
	OV25			0.31	0.03%	<0.01		0.00		<0.01	
Non-Ruderal (C3.2)	U16	0.07	0.01%	0.07	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Wet Dwarf Shrub Heath (D2)	M15b	0.09	0.01%	0.09	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Blanket Bog (E1.6.1)	M19a	16.84	1.55%	1.77	0.16%	0.02	0.65%	0.14	2.00%	0.01	0.29%
	M19			13.28	1.22%	0.08		0.19		0.04	
	M18b			1.14	0.10%	0.00		0.00		0.00	
	M18a			0.63	0.06%	0.00		0.00		0.00	
	M3			0.01	0.00%	0.00		0.00		0.00	
Wet Modified Bog (E1.7)	M20b	48.97	4.50%	0.09	0.01%	0.00	1.04%	0.00	2.32%	0.00	0.94%
	M25a^			22.81	2.10%	0.32		0.79		0.19	
	M20a			1.32	0.12%	0.02		<0.01		0.04	
	M20			24.76	2.28%	0.17		0.35		0.23	
Acid/Neutral Flush (E2.1)	M6c	8.18	0.75%	6.17	0.57%	0.05	0.68%	0.10	1.44%	0.06	1.09%
	M6			0.73	0.07%	<0.01		<0.01		0.03	
	M4			0.50	0.05%	0.00		0.00		0.00	
	M6d			0.79	0.07%	<0.01		0.02		<0.01	
Bare Peat (E4)	ExP	0.02	0.00%	0.02	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Swamp (F1)	S9a	0.10	0.01%	0.10	0.01%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Standing Water (G1)	SW	14.87	1.37%	14.87	1.37%	0.00	0.00%	0.00	0.00%	0.00	0.00%
Quarry (I2.1)	QY	0.33	0.03%	0.33	0.03%	0.00	0.00%	0.00	0.00%	0.00	0.00%

		Site (Baseline)				Permanent Direct Loss		Permanent Infrastructure Indirect Loss (only applies to Wetland Habitats)[23]		Temporary Direct Loss	
Bare Ground (J4)	BG	19.70	1.81%	19.70	1.81%	3.40	17.25%	0.00	0.00%	0.76	3.88%
Other Habitat (J5)	UM>OV27	0.14	0.01%	0.02	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%
	UM>Je			0.04	0.00%	0.00		0.00		0.00	
	UM			0.07	0.01%	0.00		0.00		0.00	
	UM>U4			0.01	0.00%	0.00		0.00		0.00	

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