6 ECOLOGY AND BIODIVERSITY

6.1 Introduction

6.1.1 This Chapter considers the potential for significant effects on 'Important Ecological Features' (IEFs) (excluding ornithological features, which are assessed in **Chapter 7: Ornithology**) associated with the construction, operation and decommissioning of the Proposed Development as described in **Chapter 2: Proposed Development**.

6.1.2 The assessment is based upon comprehensive baseline data, comprising specifically targeted ecological field surveys of important and legally protected ecological features identified from a desk study and consultation feedback. It draws on pre-existing information, where appropriate, from other studies and survey data sources, and is based on the Guidelines for Ecological Impact Assessment (EcIA) in the United Kingdom (UK) and Ireland (Chartered Institute of Ecology and Environment Management (CIEEM) and NatureScot's (formerly Scottish Natural Heritage (SNH)) Environmental Impact Assessment (EIA) Handbook.

6.1.3 The specific objectives of the Chapter are to:

- describe the assessment methodology and significance criteria used in completing the impact assessment.
- describe the ecological baseline conditions at the Site and surrounding area, to identify the ecological features which will be the focus of this assessment.
- evaluate the sensitivity of each ecological feature.
- describe the potential impacts, including direct, indirect and cumulative impacts.
- describe the mitigation measures proposed to avoid, reduce and offset potential significant adverse effects, and
- assess the significance of residual effects remaining following the implementation of mitigation.

6.1.4 This Chapter is supported by the following figures, presented in **Volume 2a** of the EIA Report:

- **Figure 1.1**: Site Location.
- **Figure: 2.1**: Site Boundary.
- **Figure 2.2**: Site Layout.
- **Figure 2.4**: Site Constraints.
- **Figure 6.1**: Statutory and Non-Statutory Sites Designated for Ecological Interest.
- **Figure 6.2**: **(a – e)**: Habitat Survey.
- **Figure 6.3**: Peatland Condition Survey.
- **Figure 6:4**: Protected Mammals.
- **Figure 6.5**: Bat Activity.

- **Figure 6.6**: Fish Habitat.
- **Figure 6.7**: Outline Biodiversity Enhancement Management Plan Habitat Restoration and Enhancement Search Areas.

6.1.5 This chapter is also supported by the following technical appendices, presented in **Volume 3** of the EIA Report:

- **Technical Appendix 2.1**: Outline Construction Environnemental Management Plan (oCEMP).
- **Technical Appendix 2.2**: Schedule of Environmental Commitments.
- **Technical Appendix 6.1**: Habitats and Vegetation.
- **Technical Appendix 6.2**: Protected Terrestrial Mammals.
- **Technical Appendix 6.3**: Bats.
- **Technical Appendix 6.4**: Fish Habitat.
- **Technical Appendix 6.5**: Fish Population Survey and Freshwater Pearl Mussel Survey.
- **Technical Appendix 6.6**: Deer Assessment.
- **Technical Appendix 6.7**: Outline Biodiversity Enhancement Management Plan.
- **Technical Appendix 6.8**: Marine Directive Science Evidence Data and Digital (MD-SEDD) – EIA Checklist.

6.1.6 The figures and technical appendices provide further information,and are referenced throughout the assessment. Note that with the exception of habitat community names and references to genus groups, only common names are used within this Chapter; scientific names are provided in the technical appendices.

6.1.7 This Chapter complements **Chapter 7: Ornithology** and **Chapter 8: Hydrology, Hydrogeology, Geology and Peat**. Note that in the interests of concision, information contained in other chapters and technical appendices is not repeated herein unless essential for understanding and so is instead cross referred to within this Chapter.

Terminology

6.1.8 To aid clarity, throughout this Chapter, the following terms are used to describe components of the Site:

- Development Area: defined as that part of the Site where the wind turbines and associated infrastructure, including new track and substation are proposed; and
- Access Route: defined as that part of the Site encompassing the existing Millennium Wind Farm access track from the A887 to the Development Area.

6.1.9 The Site, the boundary of which is shown in red as the Application Boundary on **Figure 2.1** and all figures accompanying this Chapter, therefore comprises the Development Area, the Access Route, and also small areas to the north and north-west of the Access Route

proposed for habitat creation, enhancement and management under the oBEMP; see **Appendix 6.7**).

6.1.10 Due to the iterative approach to design that has been ongoing throughout the baseline survey period, the Site boundary and survey scope has evolved over the course of baseline studies. Therefore, the surveys have been undertaken with reference to 'Study Areas' which are defined below and shown on **Figures 6.2** to **6.6**, and which do not in all cases precisely correspond with the Application Boundary of the Site.

- Study Area 1: An early iteration of the site boundary, comprising an early proposed developable area only, and excluding site access. Surveyed in 2022.
- Study Area 2: Following the end of the first year of surveys in August 2022 the preliminary site boundary was extended to the north towards Druim á Chàthair. The extended developable area was surveyed in 2023.
- Study Area 3: In late 2023 the Scoping boundary was developed, with the boundary extended further to the forestry to the north, and inclusion of the Access Route from the Development Area to the A887. This 'scoping boundary' was surveyed in 2024 for updated habitats survey data, and for peatland condition.

6.1.11 The areas surveyed (the Survey Areas) are appropriate buffers of the Study Area for a given survey and have been defined with reference to appropriate industry standard guidance. How Survey Areas relate to the Application Boundary is shown on **Figures 6.2** to **6.6** and discussed in the survey method sections where relevant.

6.2 Statutory and Planning Context

6.2.1 Legislation, policy and guidance of specific relevance to ecology, taken into account as part of this ecology assessment, are listed below. General legislation and planning policy relevant to the Proposed Development are discussed in the introductory chapters of the EIA Report and in the supporting Planning Statement and so in the interests of brevity are not repeated here. However, the ecology assessment has been undertaken with consideration to the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations), the Electricity Act 1989 and other relevant local and national planning policy.

Legislation

6.2.2 Relevant legislation and guidance documents have been reviewed and taken into account as part of this ecology assessment. Of particular relevance are:

- The Conservation of Habitats and Species Regulations 2017 as amended in Scotland by the Conservation of Habitats and Species (Amendment) (EUExit) Regulations 2019 (the Habitats Regulations);
- The Wildlife and Countryside Act 1981;
- The Wildlife and Natural Environment (Scotland) Act 2011;
- The Nature Conservation (Scotland) Act 2004;
- The Electricity Act 1989 (Schedule 9);

- The Protection of Badgers Act 1992;
- Wild Mammals (Protection) Act 1996; and
- The Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003.

6.2.3 Up-to-date copies of all UK and Scottish Government legislation, including original, as enacted, and revised versions, are available from the National Archives at https://www.legislation.gov.uk.

Planning Policy

- Scottish Government (2023) 'Fourth National Planning Framework' (NPF4);
- Scottish Government (2023) 'The Scottish Biodiversity Strategy to 2045';
- Scottish Government (2022) 'Onshore Wind Policy Statement';
- Scottish Government (2008) 'Scottish Government Planning Advice Note 60: Planning for Natural Heritage';
- The Highland Council (2012) 'Highland-wide Local Development Plan (HwLDP) and
- The Highland Council (2024) 'Inner Moray Firth Local Development Plan 2 (IMFLDP2)';
- The Highland Council (2019) 'West Highlands and Islands Local Development Plan (WestPlan)';
- The Highland Council (2016). 'Onshore Wind Energy: Supplementary Guidance';
- The Highland Environment Forum (2021). 'Highland Nature Biodiversity Action Plan 2021 – 2026'.

6.2.4 It is noted that The Highland Council ('the Council') are currently preparing a new Local Development Plan (LDP) for Highland which, once adopted, will supersede the LDPs listed above. However, this is still at the consultation stage.

Guidance

6.2.5 The following key guidance has been referred to, and followed as appropriate, in this assessment:

- CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine'
- NatureScot (2021) 'Assessing the Cumulative Impact of Onshore Wind Energy Developments';
- NatureScot (2018) 'Environmental Impact Assessment Handbook'[2];
- NatureScot (2019, updated 2021) 'Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation';
- NatureScot (2024) 'General Pre-application scoping advice for onshore wind farms';
- NatureScot (2016) 'Carbon and Peatland map';
- NatureScot (2024) 'Standard Advice for Planning Consultants: Protected Species';

- NatureScot (2023). ‘Advising on peatland, carbon-rich soils and priority peatland habitats in development management’;
- Marine Scotland Science (2021) ‘Freshwater and diadromous fish and fisheries associated with onshore wind farm and transmission line developments: generic scoping guidelines’;
- Scottish Government (2020) ‘The Scottish Biodiversity List’ (SBL);
- NatureScot (2024) Good Practice During Wind Farm Construction’;
- Scottish Environment Protection Agency (SEPA) (2017) ‘Land Use Planning System Guidance Note 4: Planning Guidance on On-shore Windfarm Developments’; and
- SEPA (2017) ‘Land Use Planning System Guidance Note 31: Guidance on Assessing the Impacts of Groundwater Abstractions and Groundwater Dependant Terrestrial Ecosystems’.

6.2.6 Guidance solely in respect to survey methodologies followed is detailed in **Appendices 6.1** to **6.7.**

6.3 Consultation Undertaken

6.3.1 A formal consultation with statutory consultees was undertaken through the production of a Scoping Report, submitted in January 2024. Responses in relation to Ecology were received from Energy Consents Unit (ECU), the Council, Nature Scot, SEPA as well as non-statutory consultees Royal Society for the Protection of Birds (RSPB) and Fisheries Management Scotland (FMS).

6.3.2 A summary of the issues covered through consultation and scoping (Ecology only) is presented in Table 6.1: Consultation Summary**Table 6.1**.

Table 6.1: Consultation Summary

Consultee and Date	Summary of Key Issues	Action taken
ECU Scoping opinion letter 11th April 2024	**Marine Directorate- Science Evidence Data and Digital (MD-SEDD)** MD-SEDD provide generic scoping guidelines for onshore wind farm and overhead line development which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm or overhead line development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process.	Good practice guidance, including that of MD-SEDD and FMS, has been considered throughout the design and planning of the Proposed Development and has informed design and embedded mitigation proposals, see **Chapter 2** and **Design and Access Statement** (**DAS**). Protection for watercourses is embedded and would be provided via the CEMP which would include a Peat Management Plan (PMP), Drainage Management Plan (DrMP) and Pollution Prevention Plan (PPP). Water quality monitoring (WQM) would be carried out throughout the construction phase to monitor the effectiveness of all protection measures put in place. A commitment to development of a Fish Monitoring and Management Plan (FMMP) is embedded in the Proposed Development. The FMMP would be implemented in the pre-, during- and post-construction phases, to monitor and prevent adverse effects to fish. For further information relating to protection plans and monitoring to protect the water environment, see **Appendices 2.1** and **2.2**. Fish have been considered and a fish habitat survey and a fish population survey carried out to inform the likely 'importance[15]' of watercourses, for supporting fish populations, on-site, in the context of the Proposed Development (refer to **Appendices 6.4** and **6.5**).
	Marine Directorate- Science Evidence Data and Digital (MD-SEDD) In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.	SAC where fish are a qualifying feature (River Moriston SAC) are considered and assessed, as detailed in **Section 6.16**. No felling operations are proposed as part of the Development.

[15] In terms of their status as 'Important Ecological Features' (IEFs) in the context of EcIA

Consultee and Date	Summary of Key Issues	Action taken
	Marine Directorate- Science Evidence Data and Digital (MD-SEDD) MD-SEDD also provide standing advice for onshore wind farm or overhead line development which outlines what information, relating to freshwater and diadromous fish and fisheries, is expected in the EIA report. Use of the checklist, provided in Annex I of the standing advice, should ensure that the EIA report contains the required information; the absence of such information may necessitate requesting additional information which may delay the process. Developers are required to submit the completed checklist in advance of their application submission.	The MD-SEDD checklist is be submitted to the ECU as part of the EIA Report and section 36 application, as **Appendix 6.8.**
The Highland Council Scoping opinion letter 13th March 2024	**Geology, Hydrology and Hydrogeology (Water Environment)** The Environmental Impact Assessment Report (EIAR) needs to address…potential impacts on…aquatic flora and fauna.	Details of habitat surveys (Phase 1 and National Vegetation Classification (NVC) undertaken of the Site, together with the results, are included in **Appendix 6.1.** Mammal surveys and the results are included in **Appendix 6.2.** Potential impacts on fish are discussed in **Section 6.16.** Embedded mitigation and sensitive design of watercourse crossings aim to minimise any effects on aquatic habitats (refer to **Section 6.7**).
	Ecology The EIAR should provide a baseline survey of the bird and animals (mammals, reptiles, amphibians, etc.) interest on site. It needs to be categorically established what species are present on the Site, and where.	Details of protected species survey undertaken, together with the results, are included in **Appendix 6.4** (for birds refer to **Chapter 7**) (with accompanying figures). This has established the protected species interest of the Site. As per NatureScot guidance (2024), there are some species that with standard mitigation are unlikely to experience significant effects as a result of the development of onshore wind farms (e.g. invertebrates, reptiles and amphibians) and as such, do not require surveys to inform an EIA. On this basis, baseline surveys for invertebrates, reptiles and amphibians have not been undertaken to inform the design and assessment of the Proposed Development. Embedded and mitigation measures to avoid or where otherwise reduce adverse effects and ensure legislative compliance

Consultee and Date	Summary of Key Issues	Action taken
		(where applicable) have however, been outlined (refer to **Sections 6.7** and **6.11**).
	Ecology The EIAR should provide an account of the habitats present on the Proposed Development Site. It should identify rare and threatened habitats, and those protected by European or UK legislation, or identified in national or local Biodiversity Action Plans. It is expected that the EIAR will address whether or not the development could assist or impede delivery of elements of relevant Biodiversity Action Plans (BAP).	Details of habitat surveys (Phase 1 and NVC) undertaken of the Site, together with the results, are included in **Appendix 6.1.** NVC communities identified through the NVC survey present on-site are summarised in **Table 6.8** along with corresponding Habitats Directive (92/43/EEC) Annex I Habitat types, SBL priority habitat type and potential Ground Water Dependant Terrestrial Ecosystems (GWDTE) status in accordance with SEPA guidance (2014) and NatureScot NVC / EUNIS / Annex I correspondence tables. **Appendix 6.7** identifies measures which complement the 'Highland Nature: Biodiversity Action Plan 2021 – 2026'.
	Ecology Habitat enhancement and mitigation measures should be detailed, particularly in respect to blanket bog.	Habitat enhancement and mitigation measures in respect of blanket bog are included in **Section 6.10,** and **Appendix 6.7.** As detailed in **Appendix 6.7** and **Section 6.10,** notable compensation for the loss of peatland would be implemented. As detailed in **Appendix 6.7**, additional restoration measures over and above the peatland restoration needed for mitigation to offset for the loss of priority peatland, for 'enhancement' has been calculated. However, final post consent proposals would have due regard to the then current guidance from NatureScot or Scottish Government.
	Ecology Details of any habitat enhancement programmes (such as native- tree planting, stock exclusion, etc.) for the proposed Site should be provided.	Details of habitat enhancement measures are detailed within the oBEMP. Refer to **Appendix 6.7**.
	Ecology A specific peat assessment to inform the siting, design, or other mitigation in order to overcome significant effects on peatland and Carbon Rich Soils, Deep Peat, and Priority Peatland Habitat (CPP).	A Peatland Condition Assessment and peat probing survey was undertaken to inform siting (areas of deeper peat have been avoided (where practical)), design, or other mitigation in order to overcome significant effects on peatland, the methodology and results of which are included in **Appendix 6.1** and **Figure 6.3. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details of peat depth surveys.

Consultee and Date	Summary of Key Issues	Action taken
	Ecology Up to-date NVC Survey and a commitment to undertake peatland restoration on an area of increased size to that of the application Site. The EIAR should provide details of all direct, indirect, permanent, and temporary impacts to any bog habitat present on the Site.	Details of NVC Survey undertaken of the Site, together with the results, are included in **Appendix 6.1.** Habitat enhancement and mitigation measures in respect of blanket bog are included in **Section 6.10**, and **Appendix 6.7** and include areas of increased size to those areas potentially lost as a result of the Proposed Development**.**
	Ecology The EIAR should address the likely impacts on the nature conservation interests of all the designated sites in the vicinity of the Proposed Development. It should provide proposals for any mitigation that is required to avoid these impacts or to reduce them to a level where they are not significant.	An assessment of direct and indirect impacts on the nature conservation interest of designated sites in the vicinity of the Proposed Development are detailed in **Table 6.10**, and in **Section 6.16. Section 6.7** details design considerations to avoid impacts and **Section 6.11** details proposed mitigation measures.
	Ecology If wild deer are present or will use the Site an assessment of the potential impact on deer will be required. This should address deer welfare, habitats, and other interests.	Deer are present on the Site. Potential impacts to deer have been assessed in **Appendix 6.6** and **Section 6.10**.
	Ecology The EIAR needs to address the aquatic interests within local watercourses, including downstream interests that may be affected by the development.	The EIAR addressed the aquatic interests, including freshwater pearl mussel, Atlantic salmon (refer to **Sections 6.8** and **6.13**), together with otter and water vole (refer to **Section 6.8**).
	Ecology The EIAR should evidence consultation input from the local fishery board(s) where relevant.	Ness District Salmon Fishery Board (NDSFB) were commissioned to undertake the fish population and freshwater pearl mussel survey (refer to **Appendix 6.5**). Recommendations from NDSFB reporting has been considered in this assessment (refer to **Sections 6.8** and **6.13**).
	Ecology The EIAR should include a map and assessment of impacts upon GWDTE and buffers, these habitats are easily damaged by insensitive drainage.	Results of the NVC Survey are included in **Appendix 6.1** and **Figure 6.2 (a – e)**. Potential GWDTE habitats (preliminary identified based on botanical composition) are also detailed in **Appendix 6.1. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on confirmed GWDTE.
	Ecology	An oBEMP is included as **Appendix 6.7,** which includes details of enhancements of peat and bank-side vegetation (through native

Consultee and Date	Summary of Key Issues	Action taken
	A draft or outline Habitat Management Plan (HMP) and Species Protection Plan (SPP) should be produced as part of the EIA, including any proposals for mitigation and enhancement in relation to important habitats and species.	riparian tree planting). The CEMP would include SPP post consent, which would be secured through a suitably worded planning condition.
	Ecology The HMP should include a comprehensive monitoring programme for all habitat improvements, and breeding birds on the Site. Remote sensing using radar or infra-red cameras should be considered, to help inform future development and decision making within the industry with regards to eagles. Lastly, the HMP (or other document) should also include a protocol for reporting collisions to NatureScot.	Within the oBEMP (**Appendix 6.7)** a summary of the monitoring protocol, is included which would be finalised in the Biodiversity Enhancement Management Plan (BEMP) post consent. Consideration into the use of remote sensing for minimising effects on eagles is addressed in **Chapter 7**.
	Significant Effects on the Environment The EIAR needs to describe the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, positive and temporary, positive and negative effects of the development. Positive and negative effects must be measured using a four-point scale: strong positive, positive, negative, strong negative.	Scope and methodology of assessment can be found in **Section 6.4**. For the Assessment of Effects refer to **Section 6.9**. The four-point scale is considered and detailed in **Table 6.12**.
NatureScot Email consultation on scope of survey work 25th November 2021	**Habitat survey** We recommend NVC survey on any areas of Annex I habitat.	NVC Survey has been undertaken for the whole Site. Results of the NVC Survey are included in **Appendix 6.1** and **Figure 6.2 (a – e)**.
	Habitat survey The 2016 Carbon and Peatland map shows that the northern part of the site is within an area mapped as nationally important Class 1 peatland and the southern part as Class 2. The 2016 mapping is indicative, and any future application would be advised to include the	Peatland Condition Assessment Survey was undertaken to inform siting, design, or other mitigation in order to overcome significant effects on peatland, the methodology and results of which are included in **Appendix 6.1 and Figure 6.3. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details of peat depth surveys.

Consultee and Date	Summary of Key Issues	Action taken
	results of site-specific peat and vegetation surveys carried out across the proposed development site (including access, borrow pits and other infrastructure) plus an appropriate buffer, so as to confirm the quality and distribution of peatland habitat that may be affected.	
	Habitat survey We would advise any future application to include mapped information on peatland habitats to NVC level together with a detailed description of current condition. Our approach to assessing impacts on peatland habitats, and the information we require, is now detailed in our staff guidance note "Advising on carbon-rich soils, deep peat and priority peatland habitat in development management".	NVC Survey has been undertaken for the whole Site. Results of the NVC Survey are included in **Appendix 6.1** and **Figure 6.2 (a – e)**. Peatland Condition Assessment Survey was undertaken, the methodology (which followed NatureScot and Joint Nature Conservation Committee (JNCC) guidance and results of which are included in **Appendix 6.1** and **Figure 6.3. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details of peat depth surveys.
	Habitat survey We recommend that any future application specifically identifies and maps any continuous blanket bog units over 25 ha in extent which will be affected, and within these areas, maps and describes the frequency of drains/peat cutting/areas of bare peat, the presence of plant species indicating peat formation capabilities or a lack of disturbance, any nationally rare or scarce species, any montane (alpine) features in the vegetation, any areas of natural surface patterning and the presence of any invasion by woodland/scrub.	Construction works will impact continuous units of blanket bog over 25ha in extent. The Peatland Condition Assessment can be found in **Annex 3** of **Technical Appendix 6.1** and **Figure 6.3.** Target notes which identify features of note/importance and can be found in **Annex 1** of **Technical Appendix 6.1**. NVC Survey has been undertaken for the whole Site. Results of the NVC Survey are included in **Appendix 6.1** and **Figure 6.2 (a – e)**.
	Habitat surveys Peat surveys should follow the 2017 "Guidance on Developments on Peatland''	**Chapter 8** provides a detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details and methodology of peat surveys.
	Terrestrial mammals We recommend that the results of the previous application are reviewed.	Publicly available information from wind farm applications within 10 km of the Proposed Development have been reviewed. References to this are detailed in **Section 6.11**.
	Terrestrial mammals We recommend that the need for a wildcat survey is assessed in accordance with our guidance.	The requirement for targeted wildcat surveys was excluded on the basis that the Site is not within any wildcat priority area (the nearest is Strathpeffer, approximately 40 km north), and the typical unsuitability of habitats present within the Study Areas (open bog/heath) However,

Consultee and Date	Summary of Key Issues	Action taken
		signs of (and habitat suitable for) wildcat were searched for during the course of mammal walkover surveys carried out within the Study Areas. Refer to **Appendix 6.2**.
	Bats If there are features suitable for roosting bats within 200 m the guidance recommends further surveys.	No features suitable for roosting bats have been identified within 200 m of Study Area 1. Refer to **Appendix 6.3** and **Figure 6.5** for details of the bat survey, design and results.
	Fish habitat survey Watercourses in the north of the Site appear to drain towards the River Moriston SAC.	Noted. **Appendices 6.4** and **6.5** detail results of the fish habitat surveys and fish population and freshwater pearl mussel surveys. **Section 6.16** of this Chapter provides information to inform a Habitat Regulations Appraisal due to potential effects from construction activities on the River Moriston SAC.
NatureScot Scoping opinion response 5th March 2024	**Key issues** Potential impacts to European sites including the River Moriston Special Area of Conservation.	Noted. **Appendices 6.4** and **6.5** detail results of the fish habitat surveys and fish population and freshwater pearl mussel surveys. **Section 6.16** of this Chapter provides information to inform a Habitats Regulation Appraisal due to potential effects from construction activities on the River Moriston SAC.
	Key issues Impacts to priority peatland and blanket bog.	An assessment of impacts on peatland habitat present within the Site are included in **Section 6.10** and **Appendix 6.7**. Notable compensation for the loss of peatland would be implemented. As detailed in **Appendix 6.7**, additional restoration measures over and above the peatland restoration needed for mitigation to offset for the loss of priority peatland, for 'enhancement' has been calculated. **Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland/peat resource within the Site.
	Protected Areas EIAR to demonstrate that this proposal would not affect any other protected areas (than those listed in the Scoping Opinion response).	**Section 6.8** details protected areas which have been scoped in and scoped out of the assessment, with respect to ecology.
	European sites A Habitats Regulations Appraisal (HRA) would be required to assess potential impacts to these sites (River Moriston Special Area of Conservation (SAC) and West Inverness-shire Lochs Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI), and any future application would need to	**Section 6.16** provides information to inform a Habitats Regulations Appraisal with respect to the River Moriston SAC. **Chapter 7** assess potential impacts to West Inverness-shire Lochs Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI).

Consultee and Date	Summary of Key Issues	Action taken
	demonstrate there was no adverse impact on site integrity.	
	River Moriston Special Area of Conservation (SAC) We are pleased to note that fish habitat surveys have been carried out and recommend that these also cover the Site access and any modifications to the Site boundary. We recommend that the need for a freshwater pearl mussel survey is also considered. We note that the Ness District Salmon Fishery Board will be consulted and recommend the applicants request any relevant desk study information they may hold, in addition to seeking comments on the proposed scope of survey and assessment.	NDSFB were commissioned to undertake the fish population and freshwater pearl mussel survey (refer to **Appendix 6.5**). Recommendations from NSDFB reporting has been considered in this assessment (refer to **Sections 6.8 and 6.12**).
	River Moriston Special Area of Conservation (SAC) Clearly demonstrate how water quality within the SAC and its tributaries would be protected during the construction, operation and decommissioning of the wind farm, including any proposed habitat management works. Particular attention to the period during and immediately after construction.	**Section 6.7** provides information on design considerations and embedded mitigation to protect water quality during construction. Additionally, good practice pollution prevention measures during works would be included in the CEMP and are discussed further in **Appendices 2.1** and **2.2**.
	Habitats We advise that habitat surveys are undertaken across the whole development Site to assess impacts from the development, to help inform potential redesign or micro-siting, and to identify potential areas for habitat restoration and enhancement. Surveys should cover an appropriate buffer to account for hydrological changes as well as any areas where access tracks/track upgrades and borrow pits may be proposed. Where Annex I or UKBAP Priority Habitats occur, we recommend surveys to NVC level. Target notes should be used to identify the presence of any notable plants including any nationally rare/scarce species, and an assessment of habitat condition is also recommended.	Details of habitat surveys (Phase 1 and NVC) undertaken of the Site, together with the results, are included in **Appendix 6.1.** NVC communities identified through the NVC Survey present on-site are summarised in **Table 6.8** along with corresponding Habitats Directive (92/43/EEC) Annex I Habitat types, SBL priority habitat type and potential GWDTE status in accordance with SEPA guidance (2014) and NatureScot NVC / EUNIS / Annex I correspondence tables. The Peatland Condition Assessment (**Appendix 6.1** and **Figure 6.3**) recorded habitat condition and target notes were used during the Phase 1 Survey to identify key ecological features, these target notes are detailed in **Appendix 6.1**.
	Habitats	

Consultee and Date	Summary of Key Issues	Action taken
	We recommend that survey results are used to inform the design and layout process, so that the development avoids, where possible, sensitive habitats such as blanket bog and montane heath. Where this is not possible, impacts should be minimised and suitable mitigation, restoration and/or compensation measures be proposed. Assessment should consider the extent of habitat loss and damage, both direct and indirect, temporary and permanent, and suitable mitigation and/or restoration measures be presented in an Outline Habitat Management Plan and Peat Management Plan.	A Peatland Condition Assessment has been undertaken following NatureScot and JNCC guidelines (refer to **Appendix 6.1** and **Figure 6.3**) and impacts on peatland habitat present (**Section 6.10**) are considered. Notable compensation for the loss of peatland would be implemented. As detailed in the oBEMP (**Appendix 6.7)**, additional restoration measures over and above the peatland restoration needed for mitigation to offset for the loss of priority peatland, for 'enhancement' has been calculated. **Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland/peat resource within the Site, and an outline PMP (**Appendix 8.3**) to inform a detailed PMP post-consent at detailed design stage.
	Priority Peatland Habitats We recommend that the applicants follow peatland guidance which includes advice on the mitigation hierarchy; survey and assessment; and mitigation and enhancement, including peatland restoration techniques, Habitat Management Plans and the level of information which would be expected for a future application. In line with our guidance an assessment of peatland condition should be provided in the EIAR.	
	Priority Peatland Habitats Development proposals on peat should be supported by a site-specific and detailed peat survey, a Peat Management Plan and a Peat Landslide Hazard Risk Assessment (PLHRA)2. We advise that site-specific assessments and surveys inform the project design and siting to ensure compliance with the mitigation hierarchy. Where impacts cannot be avoided, they should be minimised, and our current recommendation is that restoration to achieve offsetting (i.e. compensation rather than biodiversity enhancement) should be in the order of 1:10 (lost: restored), i.e. 1ha loss of peatland should result in measures to restore 10ha of peatland.	
	Priority Peatland Habitats	

Consultee and Date	Summary of Key Issues	Action taken
	Any proposal affecting carbon-rich soils and peatlands must take into account the requirements to conserve, restore and enhance biodiversity, including priority peatland habitats.	
	Priority Peatland Habitats Six of the proposed turbine locations are within an area mapped as Class 1 peatland. Aerial imagery suggests the presence of lochans indicating potentially sensitive peatland habitats. If the proposal raises issues of national interest, we may object to the application.	The design layout of the Proposed Development has been updated to avoid sensitive habitats where possible. Please refer to **Chapter 2** and **DAS** for details. Loss of some priority peatland is anticipated (and unavoidable); however, compensation, enhancement and restoration measures are detailed in **Appendix 6.7**.
	Protected Species We recommend that all survey, assessment and mitigation follows our standing advice.	NatureScot guidance[16] has been followed for the protected species surveys. Details of protected species survey undertaken, together with the results, are included in **Appendices 6.1 – 6.6** (with accompanying figures)**.** As per NatureScot guidance (2024), there are some species that with standard mitigation are unlikely to experience significant effects as a result of the development of onshore wind farms (e.g. invertebrates, reptiles and amphibians) and as such, do not require surveys to inform an EIA. On this basis, baseline surveys for invertebrates, reptiles and amphibians have not been undertaken to inform the design and assessment of the Proposed Development. Embedded and mitigation measures to avoid or where otherwise reduce adverse effects and ensure legislative compliance (where applicable) have however, been outlined (refer to **Sections 6.7** and **6.11**).
	Protected Species In relation to mountain hares, we advise the applicants follow our guidance.	As it is specific places of shelter of Schedule 5 species which are protected, not their habitat, there is no requirement to carry out impact assessment relating to impacts to populations of these species, as impacts due to loss of their habitat would not be a determining factor for a planning application. The Proposed Development is unlikely to result in significant adverse effects to local populations of mountain

Consultee and Date	Summary of Key Issues	Action taken
		hare, as the habitats at the Site would not be sufficiently changed to become unsuitable for, and so lead to displacement of, this species. There is no known published evidence to suggest mountain hare populations are adversely affected by wind farm developments, though it is acknowledged there is uncertainty and that more research is required. Embedded mitigation and good practice, including SPPs and pre-construction protected species surveys for all protected species potentially present, is built into the Proposed Development to enable legislative protection of Schedule 5 species, and as such detailed impact assessment for mountain hare has not been undertaken. Extensive habitat restoration work will likely create improved conditions for mountain hare. Studies have shown a distinct preference by mountain hare for heather, cotton grass and moorland grasses (Bedson *et al*, 2021), as well as increases in mountain hare densities on ecologically restored bog (Bedson *et al* 2022).
	Protected Species We recommend that, in accordance with our guidance, protected species also cover the access route to the north-west of the wind farm as well as any areas proposed for habitat restoration.	Study Area 3 (refer to **Appendix 6.2** and **Figure 6.4** covers the access route to the north-west of the wind and areas proposed for habitat restoration.
	Protected Species We advise that National Biodiversity Network (NBN) gateway records are also reviewed as part of the desk study.	Highland Biological Record Data Centre were contacted for and provided biological records which have been used to inform the assessments within this Chapter. It is expected that this data set contains NBN data.
	Protected Species As a qualifying interest of the River Moriston SAC, we recommend that the need for freshwater pearl mussels is considered.	Surveys for freshwater pearl mussel have been undertaken. Methodology and results are detailed in **Appendix 6.5**. Information to inform a Habitats Regulations Appraisal is detailed within **Section6.16**.

Consultee and Date	Summary of Key Issues	Action taken
	Protected Species We note the applicant's intention to scope out a number of protected species from impact assessment. We would however still recommend a brief appraisal is included in the EIAR to justify why they have been scoped out of detailed impact assessment, along with details of survey methods, results and any mitigation and/or SPPs. Impacts to salmon and freshwater pearl mussel will still require full consideration in the context of the River Moriston SAC.	**Section 6.8** of this Chapter details IEF's which have been scoped in or scoped out of detailed assessment, including robust justification for those scoped out features. Embedded mitigation and good practice, including SPPs and pre-construction protected species surveys for all protected species potentially present, is built into the Proposed Development to enable legislative protection. **Section 6.16** details information to inform a Habitats Regulations Appraisal for the River Moriston SAC.
	Bats We advise users to check the Mammal Society's Ecobat website for further updates on availability. In the interim, we suggest that EIA reports might explain the unavailability of EcoBat, and that alternative analysis should attempt to infer the level of relative bat activity, for example by comparing target site activity data with that from similar surveys in comparable geographic locations and habitat types. Regardless of the analytical approach, we advise that data is still presented in the format suggested within Appendix 1 of the bat guidance.	The Ecobat tool has been used to determine the level of relative bat activity. Results are detailed within **Appendix 6.3**.
	Deer Management If wild deer are present on or use the development Site, the EIAR should include an assessment of the potential impacts of the development on deer welfare, habitats, road safety, neighbouring and other interests such as nearby protected areas. Where significant impacts may result, a deer management statement should be provided to address the impacts, either as part of a Habitat Management Plan, a stand-alone document or modification of an existing Deer Management Plan.	A deer assessment has been completed and is presented in **Appendix 6.6,** and with a summary in **Section 6.10**. A Deer Management Statement for the Site is proposed to be developed and implemented as part of the Proposed Development, with details to be agreed post consent and secured by Planning Condition to avoid adverse impacts. No significant effects on deer in the context of the EIA Regulations.
NatureScot	**Priority Peatland Habitats** We would expect the application to demonstrate that the mitigation hierarchy has been followed and that impacts	Peatland Condition Assessment Survey was undertaken to inform siting, design, or other mitigation in order to overcome significant effects on peatland, the methodology and results of which are included

Consultee and Date	Summary of Key Issues	Action taken
Gatecheck consultation 9th April 2025	to higher quality priority peatland habitats have been avoided by design (see: https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management)	in **Appendix 6.1** and **Figure 6.3. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details of peat depth surveys.
	Priority Peatland Habitats We recommend that the template in Annex 1 of our peatland guidance is completed by the applicants. If the infrastructure (including the 250m buffer) meets the criteria within the template, we also request that an additional map is provided showing locations of notable features (e.g. Sphagnum species) in relation to the development.	Advising on peatland and carbon-rich soil template has been completed. **Appendix 6.1** provides details on locations of notable features.
	Priority Peatland Habitats Our peatland guidance recommends that bog pool communities are completely avoided by development due to their higher sensitivity and it is not clear if the current layout will achieve this. For example, turbine T04 appears to be very close to a mapped bog pool area. The rationale for the 10m buffer proposed around bog pools is not clear and we advise that the layout should ensure that pool systems will not be directly or indirectly affected by the proposed development. We also recommend that the application includes a description of the bog pool systems and surrounding habitat	Bog pools would not be directly impacted by the proposals. However, the construction works are located within 10m of bog pool communities. Construction works within 10m of blanket bog and bog pool communities has been assessed as a potential indirect loss to account for potential changes in habitat vegetation structure due to drying effects as a result of construction works. 0.11 ha is attributed to potential indirect loss of M2 and M2/M3 mosaic which represents bog pools. Descriptions of bog pool systems and surrounding habitat are detailed in **Appendix 6.1**.
	Priority Peatland Habitats Some of the proposed turbines are also close to, or above, 600m. We would consider blanket bog above 600m to be montane bog, which we also recommend is avoided due to its sensitivity.	Blanket bog over 600m is directly and indirectly impacted by proposals. **Section 6.10** assess impacts on habitat and **Appendix 6.7** details biodiversity enhancement measures.
	Biodiversity Enhancement The policy requires that such proposals demonstrate significant biodiversity enhancement, in addition to any proposed mitigation.	**Appendix 6.7** details biodiversity enhancement measures.

Consultee and Date	Summary of Key Issues	Action taken
	Biodiversity Enhancement We advise that: - Information on predicted losses, and the proposed mitigation, compensation and enhancement should be clearly set out, and also concisely summarised, in the application, so that this can be easily understood by decision makers. - The proposal should clearly set out the type and scale of enhancement it will deliver, ensuring that the application clearly distinguishes between those elements mitigating or compensating for adverse effects and those delivering enhancement. - On-site enhancement should be prioritised before off-site delivery. Where purely on-site enhancement is not possible, the Scottish Government draft guidance sets out further considerations for off-site delivery. - It is also important that the application demonstrates that the enhancement is to be secured within a reasonable timescale and with reasonable certainty, including appropriate management and monitoring arrangements, and sustained for the future (preferably in perpetuity) in order to deliver a lasting legacy. - Enhancement requires consideration of all biodiversity, not just the significant effects that are the focus of EIA.	Losses of scoped in habitats is detailed in **Table 6.11**. The oBEMP; **Appendix 6.7** details biodiversity enhancement measures.
SEPA Scoping Opinion 21st February 2024	**Site specific comments** The NatureScot Carbon and Peatland Map (2016) indicates that most of the Site is Class 1 Peat soil / Peatland. The applicant will need to demonstrate that this finalised layout / proposal accords with the mitigation hierarchy as set out in NPF4 Policy 5.	A Peatland Condition Assessment and peat probing survey was undertaken to inform siting (areas of deeper peat have been avoided (where practical)), design, or other mitigation in order to overcome significant effects on peatland, the methodology and results of which are included in **Appendix 6.1. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peatland within the Site, together with details of peat depth surveys.

Consultee and Date	Summary of Key Issues	Action taken
	Site specific comments Potential GWDTE have been identified in similar habitats on other sites. There is therefore the potential that they are present on this Site. We welcome the commitment to undertake a NVC Survey.	Results of the NVC Survey are included in **Appendix 6.1** and **Figure 6.2 (a – e)**. Potential GWDTE habitats are also detailed in **Appendix 6.1. Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on confirmed GWDTEs.

	Disturbance and re-use of excavated peat and other carbon rich soils
	Where proposals are on peatland or carbon rich soils the following should be submitted to address the requirements of NPF4 Policy 5:
	• layout plans showing all permanent and temporary infrastructure, with extent of excavation required, which clearly demonstrates how the mitigation hierarchy outlined in NPF4 has been applied. These plans should be overlaid on:
	  ○ peat depth survey showing interpolated peat depths.
	  ○ peatland condition mapping.
	  ○ NVC Survey habitat mapping
	• An Outline Peat Management Plan; and
	• An Outline Habitat Management Plan.
		Layout plans as requested are provided with **Chapter 8.** NVC Survey mapping is detailed in **Figure 6.2 (a – e)**. The outline PMP is provided in **Appendix 8.3. Appendix 6.7** details an oBEMP**.**

	Disturbance and re-use of excavated peat and other carbon rich soils The outline Habitat Management Plan should include: • Proposals for reuse of disturbed peat in habitat restoration, if relevant. • Details of restoration to compensate for the area of peatland habitat directly and indirectly impacted by the development. • Outline proposals for peatland enhancement in other areas of the Site; and • Monitoring proposals.	The PMP would be included in the CEMP. Measures to compensate for and restore peatland are detailed in **Appendix 6.7.**
	Disruption to GWDTE and existing groundwater abstractions	A baseline NVC Survey has been conducted, used to inform Site design; see **Chapter 3: 'Alternatives and Design Evolution**.

Consultee and Date	Summary of Key Issues	Action taken
	A NVC Survey which includes the following information should be submitted: • A map demonstrating all GWDTE and existing groundwater abstractions are outwith a 100 m radius of all excavations shallower than 1 m and outwith 250 m of all excavations deeper than 1 m and proposed groundwater abstractions. The survey needs to extend beyond the site boundary where the distances require it. • If the minimum buffers cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required.	Methods and results of these surveys are detailed in **Appendix 6.1** and are summarised in **Section 6.10. Figure 6.2 (a – e)** shows the mapped location of habitats indicative of potential GWDTEs in relation to infrastructure. Assessment of actual likely dependence of these habitats on groundwater, based on underlying hydrology and geomorphology, is provided in **Chapter 8**.
	Pollution prevention and environmental management A schedule of mitigation supported by Site-specific maps and plans must be submitted. These must include reference to best practice pollution prevention and construction techniques and regulatory requirements. They should set out the daily responsibilities of Ecological Clerk of Works (ECoW), how Site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer.	The schedule of mitigation is provided in **Appendix 2.2**.
Fisheries Management Scotland (FMS) Scoping Opinion 11th April 2024	Full consultation with Ness District Salmon Fishery Board is recommended. We would strongly recommend that guidelines that FMS have developed, in conjunction with MSS advice for DSFBs and Trusts in dealing with planning applications are fully considered throughout the planning, construction and monitoring phases of the Proposed Development.	NDSFB were commissioned to undertake the fish population and freshwater pearl mussel survey; details in **Appendix 6.5**. Good practice guidance, including that of MD-SEDD and FMS, has been considered throughout the design and planning of the Proposed Development and has informed design and embedded mitigation proposals, see **Chapter 2** and **DAS**. Protection for watercourses is embedded and would be provided via the CEMP which would include a PMP a Drainage Management Plan, and Pollution Prevention Plan. Water quality monitoring would be carried out throughout the construction phase to monitor the effectiveness of all protection measures put in place. A commitment to development of a FMMP is embedded in the Proposed Development. The FMMP would be

Consultee and Date	Summary of Key Issues	Action taken
		implemented in the pre-, during- and post-construction phases, to monitor and prevent adverse effects to fish. For further information relating to protection plans and monitoring to protect the water environment, see **Chapter 8**. Additionally, the MD-SEDD checklist is be submitted to the ECU as part of the EIA Report and s36 application as **Appendix 6.8.**

6.3.3 The following organisations (with interests in ecology and biodiversity) were consulted during the scoping stage, but no response was provided:

- NDSFB;
- Ness and Beauly Fisheries Trust (NBFT);
- Saving Wildcats;
- Scottish Wildlife Trust;
- Scottish Wild Land Group; and
- Woodland Trust.

6.4 Scope and Methodology

6.4.1 The scope of the assessment presented within this Chapter has been undertaken in accordance with the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine' (CIEEM 2018) and considers the following four main potential impacts upon ecological features associated with wind farm developments, during the construction phase:

- direct land-take (habitat loss) to accommodate the Proposed Development;
- temporary disturbance and land-take for laydown areas and construction compounds;
- disturbance to, fragmentation or severance of connecting habitat or potential commuting routes within, and adjacent to, the Site; and
- Disturbance and pollution (indirect effects such as noise and vibration, dust, pollution from surface water run-off) resulting from Site clearance and construction, plant and vehicles movements, and Site workers' activities.

6.4.2 During the operational phase, effects which are considered in the assessment are generally related to disturbance of adjacent habitats or species, on either a temporary or permanent basis. The potential for adverse impacts in relation to the risk of collision mortality of bats is also considered as part of the assessment scope.

Study Area

6.4.3 Study areas, within which baseline information in relation to ecological features have been obtained, have comprised three Study Area's and areas out to 10 km for specific species.

6.4.4 The locations of statutory designated sites for nature conservation with ecological qualifying interests have also been identified within 10 km of the Site (as shown in **Figure 6.1**).

6.4.5 The Study Areas used have appropriately covered the areas within the Site with Proposed Development infrastructure as well as adjacent habitats as required.

6.4.6 Full details of Study Areas adopted for desk study and field surveys are provided in **Appendices 6.1** to **6.7** and illustrated in **Figures 6.1** to **6.7**

Desk Study

6.4.7 A desk study review of existing ecological information was undertaken to:

- identify the location of designated sites for nature conservation cited for ecological interest within the Site and within 10 km for statutory sites;
- identify the location of non-statutory designated site within Study Area 1 and 2 and within and 2 km of these Study Areas;
- identify existing records of protected and/or notable species and habitats within 2 km of Study Area 1 and 2;
- identify any factor or features that may influence the potential for impacts on ecological features as a result of the Proposed Development;
- inform the requirement for further detailed survey; and
- provide context for assessment.

6.4.8 The following key sources were consulted:

- SiteLink website (NatureScot);
- Highland Biological Recording Group (HBRG);
- Scotland's Environment Map (Scottish Government);
- Saving Scotland's Red Squirrels website;
- Ness District Salmon Fishery Board;
- Scottish Environment Protection Agency (SEPA) River Basin Management Plan;
- JNCC distribution of the Freshwater Pearl Mussel; and
- NatureScot Carbon and Peatland Map (SNH, 2016).

6.4.9 Additional peer-reviewed literature and industry guidance are referred to where relevant.

6.4.10 Full details and results of the desk study undertaken are provided in **Appendices 6.1** to **6.6.**

Field Surveys

6.4.11 Detailed knowledge of habitats and the presence of likely presence or likely presence of protected and notable species has been derived from field surveys.

6.4.12 The following field surveys have been completed:

- Extended Phase 1 Habitat Survey;
- NVC Survey;
- Peatland Condition Assessment;
- Terrestrial Mammal Survey;
- Bat Habitat Suitability Appraisal;
- Preliminary Roost Assessment;
- Bat Activity Surveys – Ground Level Automated Monitoring;
- Fish Habitat Survey; and

- Fish Population and Freshwater Pearl Mussel Survey.

6.4.13 **Table 6.2** provides a summary of field survey methodologies followed. Full details are provided in **Appendices 6.1 to 6.6.**

6.4.14 All field surveys have been undertaken within the most recently available two-year survey window prior to submission, as per NatureScot guidance (2024).

Table 6.2: Field Survey Methodologies

Ecological Feature	Methodology
Habitats and Vegetation	The following surveys were undertaken over 11 days during May, June and July 2024. <u>Extended Phase 1 Habitat Survey</u> An Extended Phase 1 Habitat Survey was undertaken of all accessible land within the Site. The Phase 1 surveys were undertaken in accordance with the UK industry standard JNCC Phase 1 Habitat Methodology (JNCC, 2010), extended to include the additional recording of specific features indicating the presence, or likely presence, of protected or notable species. <u>NVC Survey</u> A NVC Survey was undertaken of all accessible land within the Site. The NVC surveys followed the guiding principles detailed in the National Vegetation Classification: Users' handbook (Rodwell, 2006). <u>Peatland Condition Assessment</u> A Peatland Condition Assessment was undertaken of all areas of blanket bog identified within the Site. The methodology for the Peatland Condition Assessment was adapted from the Common Standards Monitoring Guidance for Upland Habitats, published by the JNCC (2009) and used by NatureScot for monitoring SSSIs, and the recent NatureScot guidance (2023). Full details are provided in **Appendix 6.1**.
Protected Terrestrial Mammals	Targeted surveys for terrestrial mammals were undertaken on 26th August 2022, 27th September 2023 and 24th to 27th June 2024. Targeted survey was undertaken for the following species: otter, water vole, badger, pine marten and red squirrel. The Study Areas have comprised all suitable habitats for target species within the Site, where access was possible. Surveys have been undertaken in accordance with industry standard guidance and NatureScot guidance (NatureScot, 2024). In addition to the above, the Extended Phase 1 Habitat Survey undertaken in May, June and July 2024 were extended to include the additional recording of specific features indicating the presence, or likely presence, of protected or notable species. Full details are provided in **Appendix 6.2.**

Ecological Feature	Methodology
Bats	Bat Habitat Appraisal An initial habitat assessment of the Study Area was undertaken on 16th October 2023, to appraise the potential value of habitats within the Site for commuting and foraging bats, using the criteria detailed within Bat Conservation Trust (BCT) guidance. The assessment was informed through a review of aerial imagery and comprised a daylight walkover of potentially suitable habitat features within the Study Area. Preliminary Roost Assessment Structures and trees with the potential to support maternity roosts and significant hibernation and/ or swarming sites within 277.5 m (200 m of the Study Area, plus the candidate turbine blade length of 77.5 m) were identified through a review of aerial imagery and the preliminary habitat assessment. Daytime, ground-level preliminary roost assessments in accordance with Collins guidance (2016), were undertaken on 16th October 2023. Ground-level Static Bat Activity Surveys Six automated static detectors were deployed within the Study Area in May, June and August 2022 and September 2023, sampling the spring, summer and autumn periods (Spring: April – May; Summer: June - mid-August; Autumn: mid-August - September) in accordance with NatureScot guidance (2021). The survey methodology employed the use of automated monitoring stations (MSs), each consisting of a full spectrum 'Song Meter SM4 Acoustic Recorder', fitted with a single omnidirectional microphone or a full spectrum 'Song Meter SM Mini Bat Recorder', attached to a 1 m high wooden stake. NatureScot guidance (2021) advises a minimum of ten consecutive monitoring nights for each activity period (spring, summer and autumn) and that for developments of between one and ten turbines, one MS is deployed in the location of each proposed turbine. Due to a change in layout to the Proposed Development, increasing from six to eight turbines after the completion of surveys, only six MSs were deployed and were not placed at the specific locations of the proposed turbines. Additionally, due to an unforeseen detector malfunction, bat activity data captured at MS 3 during the summer could not be retrieved. The constraints to data capture are not considered significant and are discussed in **Section 2.6** of **Appendix 6.3.** In accordance with NatureScot guidance, Ecobat was used to provide an objective interpretation of the relative importance of bat activity levels recorded within the Site. Full details are provided in **Appendix 6.3**.

Ecological Feature	Methodology
Fish and Freshwater Pearl Mussel	<u>Fish Habitat Survey</u> A Fish Habitat Survey was completed on 24th and 25th October 2023 and on the 11th and 12th March, 2024, in order to identify any areas of critical fish habitat (i.e. spawning, nursery areas, juvenile and adult holding areas juvenile lamprey habitat and freshwater pearl mussel habitat). Watercourses were then classified in accordance with the Scottish Fisheries Co-ordination Centre's Habitat Surveys Training Course Manual (SFCC, 2007), the Environment Agency's Restoration of Riverine Salmon Habitats Guidance Manual (Hendry & Cragg-Hine, 1997) and a review of key habitat requirements for other species of conservation significance including lamprey, salmonids and freshwater pearl mussel (e.g. Maitland, 2003; Hendry & Cragg-Hine, 2003; Skinner et al. 2003). <u>Fish Population Survey and Freshwater Pearl Mussel Survey</u> A total of four fish population surveys were carried out in the summer of 2024 on three watercourses (Allt Phocaichain x 2, River Moriston and Allt Lundie). Back-pack electro-fishing equipment was utilised during these electro-fishing surveys. Semi quantitative surveys and the time delineated survey were carried out and recorded in accordance with the protocols established by the SFCC. In addition, three freshwater pearl mussel surveys were carried out on the River Moriston directly downstream of the tributaries Allt Phocaichain and Allt an Eoin. Transect surveys were undertaken coupled with random quadrat sampling. Full details are provided in **Appendices 6.4** and **6.5.**
Deer	A habitat appraisal was undertaken using desk study data, data collated during on the ground surveys of the above-mentioned species, aerial and Ordnance Survey (OS) mapping. The habitat appraisal identified opportunities for shelter and grazing for deer species within, and outwith, the Site. Full details are provided in **Appendix 6.6.**

Field Survey Personnel

6.4.15 All field surveys were completed by experienced, reputable and professional ecologists, fully conversant in established ecology survey methodologies for proposed wind developments.

6.4.16 Details of field surveyors are provided in **Appendices 6.1** to **6.5.**

Additional Surveys

6.4.17 As per NatureScot guidance (2024), there are some species that with standard mitigation are unlikely to experience significant effects as a result of the development of onshore wind farms (e.g. invertebrates, reptiles and amphibians) and as such, do not require surveys to inform an EIA.

6.4.18 On this basis, baseline surveys for invertebrates, reptiles and amphibians have not been undertaken to inform the design and assessment of the Proposed Development. Mitigation measures to avoid or where otherwise reduce adverse effects and ensure legislative compliance (where applicable) have however, been outlined.

Assessment of Potential Effect Significance

6.4.19 The assessment has been undertaken in accordance with CIEEM guidelines (2018) and includes the following stages:

- determination and evaluation of important ecological features;
- identification and characterisation of impacts;
- assessment of the significance of effects prior to mitigation measures;
- outline of mitigating measures to avoid and reduce significant impacts;
- assessment of the significance of any residual effects after such measures; and
- identification of appropriate compensation measures to offset significant residual effects.

Criteria for Assessing the Sensitivity of Features

6.4.20 Relevant European, national and local guidance from governments and specialist organisations has been referred to in order to determine the sensitivity (or importance) of ecological features. Reference has also been made to NatureScot guidance (NatureScot, 2024) on key ecological features when considering the development of onshore wind farms in Scotland.

6.4.21 In addition, sensitivity has also been determined using professional judgement and taking account of the results of baseline field and desk study findings and the functional role of features within the context of the geographical area.

6.4.22 It should be noted that sensitivity, or importance does not necessarily relate to the level of legal protection that a feature receives, and ecological features may be important for a variety

of reasons, such as their connectivity to a designated site, rarity or the geographical location of species relative to their known range.

6.4.23 For the purposes of this assessment the sensitivity or importance of an ecological feature is considered in the context of a defined geographical area, ranging from international to local, as detailed in **Table 6.3**.

6.4.24 As such, the assessment considers effects upon designated sites and ecological features which are considered important on the basis of baseline information, relevant guidance, literature, professional judgement of the authors and opinions of statutory advisory bodies provided through consultations in relation to the Proposed Development and, where relevant, other wind farm developments.

6.4.25 Where ecological features are not considered so important as to warrant a detailed assessment, or where they would not be significantly affected on the basis of baseline information these are 'scoped out' (as agreed through the scoping report and opinion, see **Table 6.1**, or as detailed in **Section 6.8**) of the assessment. Mitigation measures for such features may, however, still be outlined as appropriate to reduce and/or avoid any potentially adverse effects or to ensure legislative compliance. Where relevant, these ecological features may also be discussed qualitatively within the EIA Report and given consideration in Site-wide recommendations for habitat enhancement.

Table 6.3: Geographic Scale of Ecological Feature Importance

Sensitivity and Geographic Scale	Definition
High - International	An internationally designated site e.g. SACor candidate/potential site (pSAC). Large areas of priority habitat listed under Annex I of the Habitats Directive, and smaller areas of such a habitat that are essential to maintain the viability of that ecological resource. A regularly occurring, nationally significant population of any internationally important species, listed under Annex II or Annex IV of the Habitats Directive.
High - National	A nationally designated site e.g. SSSI, or area meeting criteria for national level designations. Significant extents of a priority habitat identified in the UK Biodiversity Action Plan (BAP) / SBL, or smaller areas which are essential to maintain the viability of that ecological resource. A regularly occurring, regionally significant population of any nationally important species listed as a UK BAP / SBL priority species and Species listed under Schedule 1 or Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.

Sensitivity and Geographic Scale	Definition
Medium - Regional	Viable areas of key semi-natural habitat identified in the UKBAP. A regularly occurring, locally significant population of any nationally important species listed as a UK BAP / SBL priority species and Species listed under Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive. Sites which exceed the local authority-level designations but fall short of SSSI selection guidelines, including extensive areas of semi-natural woodland.
Low - Local	Nature conservation sites selected on local authority criteria. Other species of conservation concern, including species listed under the Local Biodiversity Action Plan (LBAP). Areas of habitat or species considered to appreciably enrich the ecological resource within the local context e.g. species-rich flushes or hedgerows. All other species and habitats that are widespread and common and which are not present in locally, regionally or nationally important numbers or habitats which are considered to be of low ecological value.
Site	Widespread and common and which are not present in regionally, nationally or locally important numbers, but which form part of the breeding/wintering bird assemblage within the Site only. Note, these features are not considered in this assessment.

Criteria for Assessing the Magnitude of Impacts

6.4.26 Once identified, potential impacts are described making reference to the following characteristics as appropriate:

- beneficial or adverse;
- extent;
- magnitude;
- duration;
- timing;
- frequency; and
- reversibility.

6.4.27 The assessment only makes reference to those characteristics relevant to understanding the nature of an impact and determining the significance of the resulting effect. For the purposes of this assessment the temporal nature of potential effects is described as follows:

- negligible: of inconsequential duration;

- short-term: for 1 – 5 years;
- medium-term: for 5 – 25 years;
- long-term: for 25 – 35 years; and
- permanent: >35 years.

6.4.28 The criteria used to determine the magnitude of impacts are set out in **Table 6.4**.

Table 6.4: Impact Magnitude

Magnitude	Definition
Very High	The impact (either on its own or in-combination with other proposals) may result in the permanent total or almost complete loss of a designated site and/or species/habitat status or productivity. Or alternatively notable gains in the species status or productivity.
High	The impact (either on its own or in-combination with other proposals) may adversely, or positively, affect the conservation status of a designated site and/or species population, in terms of the coherence of its ecological structure and function (integrity), across its whole area, that enables it to sustain the habitat, complex of habitats and/or the population levels of species of interest.
Medium	The impact (either on its own or in-combination with other proposals) would not adversely, or positively, affect the conservation status of a designated site and/or species in the long-term, but some element of the functioning might be affected, and impacts could potentially affect its ability to sustain some part of itself in the short to medium-term.
Low	Neither the above or below applies, but some observable adverse, or positive impact is evident on a short-term basis or affects the extent of a habitat/species abundance in the local area.
Negligible	A very slight (indiscernible) reduction, or increase, in a species status or productivity and/or no observable effect.

Criteria for Assessing Effect Significance

6.4.29 CIEEM guidelines (2018) note that "A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects have been lawfully permitted following EIA procedures."

6.4.30 For the purposes of assessment, significant effects are identified as those which encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

6.4.31 Such effects are identified by considering the sensitivity of a receptor, the magnitude of the impact and applying professional judgement based on best available evidence, to identify whether the integrity of a receptor would be affected.

6.4.32 The term 'integrity' is used here to refer to the maintenance of the conservation status of a population of a species at a specific location or geographical scale.

6.4.33 For the purposes of this assessment, significant effects are primarily expressed with reference to an appropriate geographical scale.

6.4.34 In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect has been assumed as a precautionary approach. Where uncertainty exists, this is acknowledged.

6.4.35 Where the assessment proposes measures to mitigate adverse effects on ecological features, a further assessment of residual effects, taking into account such measures, has been undertaken.

6.4.36 CIEEM guidelines (2018) do not recommend the sole use of a matrix table as commonly set out in EIA Reports chapters to determine 'significant' and 'non-significant' effects. For the purposes of the assessment presented herein, **Table 6.5** sets out adapted CIEEM terminology and equivalent in the context of the EIA Regulations, which has been used within this Chapter.

6.4.37 **Major** and **moderate** effects are considered significant in the context of the EIA Regulations.

Table 6.5: Effect (EIA Significance)

Sensitivity	Impact Magnitude				
	Very High	High	Medium	Low	Negligible
High	Major	Major/Moderate	Moderate/Minor	Minor	Negligible
Medium	Major/Moderate	Moderate	Minor	Minor/Negligible	Negligible
Low	Moderate/Minor	Minor	Minor	Minor/Negligible	Negligible

Avoidance, Mitigation, Compensation and Enhancement

6.4.38 A mitigation hierarchy has been adopted to avoid, mitigate and compensate for potential ecological impacts as a result of the Proposed Development design.

- avoidance is used to refer to measures to reduce or remedy a specific adverse impact in-situ;
- mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ;
- compensation describes measures taken to offset residual effects, i.e., where mitigation in situ is not possible; and
- enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of the mitigation or compensation measures, although they can be complementary.

Assessment of Residual Effect Significance

6.4.39 Where the ecological assessment proposes measures to mitigate adverse effects on ecological features, a further assessment of residual effects, taking into account any ecological mitigation recommended, will be undertaken.

Assessment of Cumulative Effects

6.4.40 Potentially significant cumulative effects can result from individually insignificant but collectively significant, or interacting, actions taking place over a period of time or concentrated in a location.

6.4.41 For aquatic features, potential cumulative effects are likely to be significant only for other developments located relatively close (i.e., within 2 km) and within the same hydrological sub-catchments.

6.4.42 Potentially significant cumulative effects are only likely where other developments are located within the regular range of more mobile species (e.g., bats). Cumulative effects have therefore been assessed with reference to NatureScot guidance (2021) for bats only and within 10 km of the Proposed Development.

6.4.43 The cumulative assessment includes consideration of:

- existing wind farm developments, either operational or under construction;
- approved wind farm developments, awaiting implementation; and
- wind farm applications in planning, within the planning process with design information in the public domain.

6.4.44 Those developments which have been withdrawn and/or refused are not considered, unless an appeal is currently in progress and information is available.

6.4.45 Non-wind farm proposals are scoped out of the cumulative assessment, as none have been identified for inclusion by NatureScot during the scoping and consultation process (refer to **Table 6.1**).

6.4.46 Small wind farm developments, including those with three turbines or less, have also been scoped out as applications for such developments do not generally consider the potential for impacts upon ecological features in sufficient detail to meaningfully inform assessment. As such, the cumulative assessment considers those wind farm developments which are the subject of a valid planning application and so have sufficient information available in the public domain to allow a meaningful assessment.

Requirements for Habitats Regulations Appraisal

6.4.47 The Site boundary, to the north/north-west, abuts the River Moriston SAC, where effects on both qualifying species (Atlantic salmon and freshwater pearl mussel) are considered possible.

6.4.48 Accordingly, this Chapter (see **Section 6.16**) provides a ‘screening’ stage where the Proposed Development is examined to determine if it would have a likely significant effect on

the River Moriston SAC. Furthermore, **Section 6.16** also provides information to inform an HRA (which is all the relevant data and details gathered) to allow the competent authority to undertake an Appropriate Assessment (AA), if necessary.

Enhancement opportunities

6.4.49 As a fundamental part of the Proposed Development, habitat enhancement opportunities on-site are investigated. The requirements of Policy 3 of NPF4 states that developments should contribute to the enhancement of biodiversity, and this could include restoring degraded habitats and strengthening nature networks and connections between them. Enhancement measures to be investigated and adopted are accordingly provided in **Appendix 6.7**.

Assessment Limitations

6.4.50 Limitations are discussed in full within **Appendices 6.1** to **6.6.**

6.4.51 Overall, no substantive limitations to the survey data in establishing an accurate reflection of the levels of target species activity and distributions, and habitats, within adopted Study Areas, and particularly the Site, are identified.

6.4.52 The future species community and habitat composition and condition at the time of decommissioning is unknown and cannot be reasonably assumed with any certainty.

EIA Scoping - Features Scoped Out

6.4.53 The EIA Scoping Report for the Proposed Development was submitted in January 2024. Several ecological features were scoped out of consideration during the scoping process, and so they are not considered further in this Chapter. A summary of these is provided below for clarity.

6.4.54 Where consultation responses to scoping have advised on the inclusion of features that were proposed in the Scoping Report to be scoped out, these have been addressed further in the Gatecheck report (RSK 2025), with further justification for not including them in the impact assessment process where relevant, in line with the principles of proportionate EIA.

Designated Sites for Nature Conservation

6.4.55 It is proposed that given the high degree of spatial separation, the static nature of the qualifying features (habitats), lack of connectivity and so no likely impact pathways and/or major infrastructure (e.g. road network; A82 and A887) between the designated sites and the Site, the following designated sites are scoped out of assessment:

- Ness Woods SAC;
- Strathglass SAC;
- Glen Tarff SSSI;
- Garry Falls SSSI;
- South Laggan Fen SSSI;

- Easter Ness Forest SSSI;
- Glen Affric SSSI; and
- Levishie Wood SSSI.

6.4.56 As such the River Moriston SAC is the only statutory designated site that is considered within this Chapter.

Habitats

6.4.57 Impacts to common and widespread habitats of low sensitivity and/or conservation interest, such as bracken, improved grassland and scrub, have been scoped out of the assessment, and so consideration in this Chapter is restricted to habitats which:

- may correspond with habitats listed on Annex I of the Habitats Directive; and/ or
- are included on the SBL or LBAP.

6.4.58 Note, the potential for the above habitats to be potential GWDTEs (based on the botanical composition) is also considered, although **Chapter 8** considers effects on confirmed GWDTEs. Some habitats present may have no specific conservation status but may be highlighted for biodiversity action on the LBAP or be of value to ecological features of high conservation concern. Such habitats are not considered quantitatively in the impact assessment in terms of habitat loss (e.g. scrub, rough grassland), but where relevant are discussed qualitatively and given consideration in Site-wide recommendations for habitat enhancement.

Protected Species

6.4.59 Some species/species groups may be present at, or in the vicinity of, the Site, but with the application of good practice and embedded mitigation, are unlikely to be subject to significant population level effects at any geographic scale as a result of the Proposed Development. Any species which are unlikely to be subject to significant effects arising as a result of the Proposed Development have been scoped out of EcIA in this Chapter of the EIA Report, as detailed below.

6.4.60 Mountain hare are scoped out of the assessment; the Proposed Development is unlikely to result in significant adverse effects to local populations of mountain hare, as the habitats at the Site would not be sufficiently changed to become unsuitable for, and so lead to displacement of, this species.

6.4.61 As it is specific places of shelter of mountain hare which are protected, not their habitat, there is no requirement to carry out impact assessment relating to impacts to populations of these species, as impacts due to loss of their habitat would not be a determining factor for a planning application. The Proposed Development is unlikely to result in significant adverse effects to local populations of mountain hare, as the habitats at the Site would not be sufficiently changed to become unsuitable for, and so lead to displacement of, this species.

6.4.62 There is no known published evidence to suggest mountain hare populations are adversely affected by wind farm developments, though it is acknowledged there is uncertainty and that more research is required.

6.4.63 Extensive habitat restoration work will likely create improved conditions for mountain hare. Studies have shown a distinct preference by mountain hare for heather, cotton grass and moorland grasses (Bedson *et al*, 2021), as well as increases in mountain hare densities on ecologically restored bog (Bedson *et al* 2022).

6.4.64 Invertebrates, reptiles and amphibians are scoped out of the assessment in accordance with NatureScot guidance (NatureScot, 2024) and embedded mitigation, including reasonable avoidance measures, to be implemented under SPPs where appropriate.

6.4.65 Adverse effects on all habitats and species (excluding bats) during operation are scoped out. No damage is anticipated to habitats during operation, and maintenance visits would be rare and unlikely to result in disturbance to protected species.

6.5 Existing Environment

6.5.1 This section provides a summary of baseline ecological conditions in relation to:

- designated sites of nature conservation with ecological interests;
- habitats and vegetation; and
- protected and notable species:
  - terrestrial mammals.
  - bats.
  - fisheries (including freshwater pearl mussel); and
  - deer.

6.5.2 Detailed information regarding desk study records and field survey results is presented in **Appendices 6.1** to **6.6** where relevant, and also as relevant within **Section 6.8** with regards IEFs.

Designated Sites for Nature Conservation

6.5.3 This section should be read with reference to **Figure 6.1**.

6.5.4 Sites designated for ornithological features are addressed separately in **Chapter 7**.

Statutory Designated Sites for Nature Conservation

6.5.5 The majority of designated sites with ecological qualifying interest within a 10 km buffer of the Site were scoped out of consideration in the EcIA during the EIA scoping consultation, due to spatial separation and/or an absence of impact pathways (refer to **Section 6.4**).

6.5.6 However, there is hydrological connectivity between the Proposed Development and the River Moriston SAC via a number of tributaries which drain from the Site towards the River Moriston SAC. Additionally, the Site boundary abuts the right-hand bank of the River Moriston SAC. Details of the River Moriston SAC are presented in **Table 6.6**.

Table 6.6: Designated Sites for Nature Conservation

Site	Distance and Direction[17]	Qualifying Interests
River Moriston SAC	Abuts Site Boundary to the north / north-west	• Atlantic salmon; and • freshwater pearl mussel.

Non-statutory Designated Sites for Nature Conservation

6.5.7 The data returned by HBRG indicated that there are no non-statutory designated sites within 2 km of Study Area 1 and 2.

Habitats and Vegetation

Desk Study

6.5.8 No information on priority habitats was returned by the HBRG data search.

6.5.9 Areas of ancient (of semi-natural origin) woodland, listed on Scotland's Environment Map (ancient woodland inventory) are present adjacent the Site Boundary to the north, along the west-bound carriageway of the A887.

Field Survey

6.5.10 A summary of habitats recorded within the Site is summarised below and in **Tables 6.7** and **6.8**. Habitats are discussed with reference to both the Phase 1 Habitat Survey and NVC Survey findings.

6.5.11 Detailed survey results are provided in **Appendix 6.1** and illustrated on **Figure 6.2** and **Figure 6.3.**

6.5.12 The majority of the Site is covered by open upland habitats, including wet dwarf shrub heath, blanket bog, wet modified bog, acid/neutral flush, grassland, bracken and standing water. Coniferous plantation woodland and mixed plantation woodland are present within the northern extent of the Site.

6.5.13 Some habitats recorded within the Site may have protection status in certain contexts but are not necessarily considered to represent protected examples of habitat in the context of the Site. This is either due to the habitat being relatively species-poor or noted to be lacking in indicator species, or due to its presence as a minor component in mosaic with other habitats and so not representing high quality examples of the protected habitat type. Mosaics where the protected habitat forms less than 50 % of the recorded habitat polygon are not considered to be examples with protection status (with the exception of blanket bog, for which all mosaics are included).

[17] The distances are measured from the Site Boundary to the designation boundary at its nearest point.

6.5.14 A summary of habitat types and approximate areas is provided in **Table 6.7**.

Table 6.7: Summary of Baseline Habitats Including Approximate Area and Relative Percentage Coverage within the Site[18]

Phase 1 Habitat Type	Extent (ha)	Relative Cover (%)
A1.2.2 Coniferous plantation woodland	201.20	10.91
A1.3.2 Mixed plantation woodland	0.33	0.02
A1.3.2/E1.7 Mixed plantation woodland/Modified bog	104.88	5.69
B1.1 Acid grassland – unimproved	7.56	0.41
B1.1/C1.2 Acid grassland – unimproved/Scattered bracken	1.81	0.09
B1.1/D1.1 Acid grassland – unimproved/Dry heath	3.71	0.20
B4 Improved grassland	0.54	0.02
B5 Marshy grassland	80.90	4.39
B5/D6 Marshy grassland/Wet heath/acid grassland mosaic	1.97	0.10
C1.1 Continuous bracken	2.07	0.11
D1.1 Dry dwarf shrub heath	49.04	2.66
D1.1/C1.1 Dry dwarf shrub heath/Continuous bracken	8.64	0.46
D1.1/C1.2 Dry dwarf shrub heath/Scattered bracken	2.55	0.13
D2 Wet dwarf shrub heath	241.83	13.12
D2/E1.6.1 Wet dwarf shrub heath/Blanket bog	52.90	2.87
D2/E1.7 Wet dwarf shrub heath/Wet modified bog	33.37	1.81
D2/E2.1 Wet dwarf shrub heath/Acid/Neutral flush	107.90	5.85
D2/E2.2 Wet dwarf shrub heath/Basic flush	0.15	<0.01
D3 Lichen/bryophyte heath	1.20	0.06
D3/D1.1 Lichen/bryophyte heath/Dry heath	0.13	<0.01
D3/D2 Lichen/bryophyte heath/Wet dwarf shrub heath	16.72	0.90

[18] Total does not equal 100% due to rounding.

Phase 1 Habitat Type	Extent (ha)	Relative Cover (%)
D6 Wet heath/Wet dwarf shrub heath/Acid grassland mosaic	6.39	0.34
E1.6.1 Blanket bog	699.45	37.96
E1.6.1/D2 Blanket bog/Wet dwarf shrub heath	49.11	2.66
E1.6.1/D2/E2.1 Blanket bog/Wet dwarf shrub heath/Acid/neutral flush	63.90	3.46
E1.6.1/E2.1 Blanket bog/Acid/neutral flush	1.99	0.10
E1.6.1/E4 Blanket bog/Bare peat	1.62	0.08
E1.7 Wet modified bog	58.30	3.16
E1.7/D2 Wet modified bog/Wet dwarf shrub heath	2.94	0.15
E2.1 Acid/neutral flush	4.18	0.22
E2.1/D2 Acid/neutral flush/Wet dwarf shrub heath	1.14	0.06
E2.1/E1.6.1 Acid/neutral flush/Blanket bog	0.02	<0.01
E2.2 Basic flush/spring	0.21	0.01
E2.2/D2 Basic flush/spring/Wet dwarf shrub heath	0.04	<0.01
E4 Bare peat	0.45	0.02
G1.3 Oligotrophic standing water	4.10	0.22
G1.3/E1.6.1 Oligotrophic standing water/Blanket bog	1.75	0.09
G1.3/E4 Oligotrophic standing water/Bare peat	6.83	0.37
G1.3/F1 Oligotrophic standing water/Swamp	0.40	0.02
I2.1 Quarry	1.56	0.08
J4 Bare ground	18.74	1.01

6.5.15 NVC communities identified through the NVC survey present on-site are summarised in **Table 6.8** along with corresponding Habitats Directive (92/43/EEC) Annex I Habitat types, SBL priority habitat type and potential GWDTE status in accordance with SEPA guidance (2014) and NatureScot NVC / EUNIS / Annex I correspondence tables (2017). NVC communities inconsequential in extent (i.e. very localised) are not included in **Table 6.8**.

6.5.16 The H10a/c, H16b, H18a communities are all assessed as qualifying as Annex I habitat '4030 European dry heaths'. The H12a and H21 communities are assessed as qualifying as Annex

I habitat '4030 European dry heath / 4060 Alpine and Boreal heaths'. Communities H14, H17 and H22 are assessed as qualifying as Annex I habitat '4060 Alpine Boreal heaths'. The M15b/c and M16b communities are assessed as qualifying as '4010 Northern Atlantic wet heaths with *Erica tetralix'.* Communities M1, M2, M3, M17a/b and M19a/b are assessed as qualifying as Annex I habitat '7130 Blanket bogs'. Community M10a is assessed as qualifying as Annex I habitat '7230 Alkaline fens' and M11a is assessed as qualifying as Annex I habitat '7240 Alpine pioneer formations of the *Caricion bicoloris-atrofuscae'.*

6.5.17 The communities which qualify as Annex I habitats, also have equivalent designations under the SBL. In addition, communities M4, M6a/b/c, M23, M31, M32 and S9b qualify as SBL 'Upland flushes, fens and swamps' designation. The U6d community qualifies as SBL '*Juncus squarrosus - Festuca ovina grassland*' and Standing water – oligotrophic (no affinities to an NVC community) qualifies as SBL 'Oligotrophic and dystrophic lakes'.

6.5.18 The M17a/b and M19a/b communities have been listed as priority peatland communities where impacts have the potential to raise issues of national interest. The M1, M2 and M3 bog pool communities are recognised as a priority peatland community that should be completely avoided by development (NatureScot, 2023). Based on the results of the Peatland Condition Assessment (refer to **Appendix 6.1**) in total, 874.18 ha of priority peatland within the Site is considered to be of 'possible national interest'.

6.5.19 In addition to protected and/or sensitive habitats as summarised above, the surveys also recorded several habitat communities within the Site which are indicative of potential GWDTE. **Table 6.8** below summarises the NVC habitat communities recorded within the Site which indicate that a habitat may be either highly groundwater dependent or moderately groundwater dependent, depending on the hydrogeological setting. Actual confirmed GWDTE status, based on investigation of underlying geological and hydrological context, is discussed in **Chapter 8**.

Table 6.8: Summary of Vegetation Communities on the Site with Corresponding Conservation Designations and/or Groundwater Dependence

NVC Community	Phase 1 Habitat	Annex I Habitat	Scottish Biodiversity List Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
M23a/b *Juncus effusus/acutiflorus – Galium palustre* rush pasture	B5 Marshy grassland	-	Upland flushes, fens and swamps	-	High
		-	-	-	High
MG10a *Holcus lanatus – Juncus effusus* rush pasture		-	-	-	Moderate
H10a/c *Calluna vulgaris – Erica cinerea* heath	D1.1 Dry heath	4030 European dry heaths	Upland heathland	-	-
		4030 European dry heaths	Upland heathland	-	-
H12a *Calluna vulgaris - Vaccinium myrtillus* heath		4030 European dry heaths / 4060 Alpine and Boreal heaths	Upland heathland	-	-
H16b *Calluna vulgaris - Arctostaphylos uva-ursi* heath		4030 European dry heaths	Upland heathland	-	-
H18a *Vaccinium myrtillus - Avenella flexuosa* heath		4030 European dry heaths	Upland heathland	-	-

NVC Community	Phase 1 Habitat	Annex I Habitat	Scottish Biodiversity List Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
H21 Calluna vulgaris - Vaccinium myrtillus - Sphagnum capillifolium heath		4030 European dry heaths / 4060 Alpine and Boreal heaths	Upland heathland	-	-
H22b *Vaccinium myrtillus - Rubus chamaemorus* heath		4060 Alpine and Boreal heaths	Upland heathland	-	-
M15b/c *Trichophorum germanicum – Erica tetralix* wet heath	D2 Wet heath	4010 Northern Atlantic wet heaths with *Erica tetralix*	Upland heathland	Unlikely to raise issues of national interest	Moderate
		4010 Northern Atlantic wet heaths with *Erica tetralix*	Upland heathland	Unlikely to raise issues of national interest	Moderate
M16b *Erica tetralix - Sphagnum compactum* wet heath		4010 Northern Atlantic wet heaths *with Erica tetralix*	Upland heathland	Unlikely to raise issues of national interest	High
H14 *Calluna vulgaris - Racomitrium lanuginosum* heath	D3 Lichen and bryophyte heath	4060 Alpine and Boreal heaths	Mountain heaths and willow scrub	-	-
H17b *Calluna vulgaris - Arctostaphylos alpinus* heath		4060 Alpine and Boreal heaths	Mountain heaths and willow scrub	-	-

NVC Community	Phase 1 Habitat	Annex I Habitat	Scottish Biodiversity List Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
U6d *Juncus squarrosus* – *Festuca ovina* grassland	D6 Wet heath and acid grassland	-	*Juncus squarrosus* - *Festuca ovina* grassland [watching brief]	-	Moderate
M1 *Sphagnum auriculatum* bog pool community	E1.6.1 Blanket bog	7130 Blanket bogs	Blanket bog	Should be completely avoided	-
M2 *Sphagnum cuspidatum/fallax* bog pool community		7130 Blanket bogs	Blanket bog	Should be completely avoided	-
M3 *Eriophorum angustifolium* bog pool community		7130 Blanket bogs	Blanket bog	Should be completely avoided	-
M17a/b *Trichophorum germanicum* - *Eriophorum vaginatum* blanket mire		7130 Blanket bogs	Blanket bog	Impacts have the potential to raise issues of national interest	-
		7130 Blanket bogs	Blanket bog	Impacts have the potential to raise issues of national interest	-

NVC Community	Phase 1 Habitat	Annex I Habitat	Scottish Biodiversity List Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
M19a/b *Calluna vulgaris* - *Eriophorum vaginatum* blanket mire		7130 Blanket bogs	Blanket bog	Impacts have the potential to raise issues of national interest	-
		7130 Blanket bogs	Blanket bog	Impacts have the potential to raise issues of national interest	-
M20a *Eriophorum vaginatum* blanket mire	E1.7 Wet modified bog	-	Blanket bog	Unlikely to raise issues of national interest	-
M25a *Molinia caerulea* – *Potentilla erecta* mire	E1.7 Wet modified bog / B5 Marshy grassland	-	Blanket bog	Unlikely to raise issues of national interest	-
M4 *Carex rostrata* - *Sphagnum fallax* mire*	E2.1 Flush and spring – acid	-	Upland flushes, fens and swamps	-	-
M6a/b/c *Carex echinata* - *Sphagnum fallax/ auriculatum* mire		-	Upland flushes, fens and swamps	-	High
		-	Upland flushes, fens and swamps	-	High
		-	Upland flushes, fens and swamps	-	High

NVC Community	Phase 1 Habitat	Annex I Habitat	Scottish Biodiversity List Habitat	Priority Peatland Status*	Potential Groundwater Dependence**
M10a *Carex dioica – Pinguicula vulgaris* mire	E2.2 Flush and spring – basic	7230 Alkaline fens	Upland flushes, fens and swamps	-	High
M11a *Carex demissa - Saxifraga aizoides* mire		7240 Alpine pioneer formations of the *Caricion bicoloris-atrofuscae*	Upland flushes, fens and swamps	-	High
M31 *Anthelia julacea-Sphagnum auriculatum* spring	E2.3 Flush and spring – bryophyte dominated spring	-	Upland flushes, fens and swamps	-	High
M32a *Philonotis fontana – Micranthes stellaris* spring		-	Upland flushes, fens and swamps	-	High
S9b *Carex rostrata* swamp	F1 Swamp	-	Upland flushes, fens and swamps	-	-
-	G1.3 Standing water - oligotrophic	-	Oligotrophic and dystrophic lakes	-	-

* As per guidance from NatureScot (2023). Based on vegetation communities present and further informed by the results of the Peatland Condition Assessment survey.

** As listed in Appendix 4 of SEPA (2017) LUPS Guidance Note 31. The categorisation of groundwater dependent terrestrial ecosystems is preliminary and is based on vegetation communities present. Confirmed categorisation is based on subsequent formal hydrological assessment.

Notable flora species

6.5.20 Two species recorded on the Site are listed as 'near threatened' on the IUCN Red List (BSBI, 2009):

- great sundew, in an area of M10 flush; and
- alpine bearberry, occurring as a constant in H17 lichen and bryophyte heath and in scattered locations on M15 and M16 wet heath.

6.5.21 Two species recorded on the Site are listed as 'nationally scarce' in Great Britain based on lists compiled by the Botanical Society of Britain & Ireland and the British Bryological Society respectively (BSBI, 2009; Pescott, 2016):

- dwarf birch, found sparsely scattered across a range of bog and wet heath communities; and
- three-ranked spear-moss, found in an M1 bog pool.

6.5.22 No species recorded on the Site are listed on Schedule 8 of the Wildlife and Countryside Act, or on the Scottish Biodiversity List as having special protected status.

6.5.23 No species listed on Schedule 9 of the Wildlife and Countryside Act as being invasive non-native plant species were recorded during the surveys.

Peatlands

6.5.24 The Carbon and Peatland Map (NatureScot, 2016) was consulted to determine likely peatland habitat classes present at the Site. The Carbon and Peatland 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 potential areas of *"nationally important carbon-rich soils, deep peat and priority peatland habitat".* Class 1 peatlands are *"likely to be of high conservation value"* and Class 2 *"of potentially high conservation value and restoration potential"*. Class 1 and Class 2 peatlands are considered to be nationally important. It is recognised that this definition is not purely for nature conservation and so not directly applicable to evaluating purely the Nature Conservation Value of a peatland.

6.5.25 Priority peatland habitats are defined by NatureScot as *"land covered by peat-forming vegetation or vegetation associated with peat formation"* which is considered to be comparable to the definition of Annex I 'active' bog habitats.

6.5.26 The Carbon and Peatland Map (2016) identifies that the Site comprises Class 1, 2, 3 and 5 peatland.

6.5.27 Class 3 peatland is described in guidance (SNH 2017) as: "Dominant vegetation cover is not a priority peatland habitat but is associated with wet and acidic types. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat". Class 5 peatland is described as "Area of peat but no peatland habitat recorded".

6.5.28 As the Carbon and Peatland Map is a high-level tool, peat depth surveys (as detailed in **Chapter 8**) and detailed habitat surveys (including Peatland Condition Assessment) have also been carried out to inform the detailed Site assessment on peatland. Information derived

from site-specific surveys is considered to be the most accurate and is subsequently the most appropriate dataset for use in the assessment.

6.5.29 This Chapter includes an assessment of priority habitats. For clarity, for the purposes of impact assessment, priority habitats have been defined with reference to Annex I of the Habitats Directive, SBL priority habitats and priority peatland. **Chapter 8** provides a more detailed assessment of the effects of the Proposed Development on the peat resource, and GWDTEs, within the Site.

Terrestrial mammals

6.5.30 Baseline terrestrial mammal conditions are summarised in **Table 6.9**. Full details are provided in **Appendix 6.2** and **Figure 6.4.**

Table 6.9: Summary of Terrestrial Mammal Survey Results

Terrestrial Mammal Species	Summary of Survey Results
Otter	No records of otter were identified from the desk study sources. Four otter spraints were identified during the walkover surveys. Fresh spraints were located nearby to Allt Phocaichain. Other spraints were recorded throughout the Survey Areas but were sparsely distributed. The waterbodies and watercourses within the Survey Area provide some foraging opportunities for the species, but they have limited suitable habitat for holts or permanent places of residence.
Pine marten	No records of pine marten were identified from the desk study sources. Pine marten scats were widely but sparsely recorded within the Survey Area. Scats were often found along tracks either within plantation woodland or close to it. Woodlands within and adjacent to the Site offer suitable foraging and breeding habitat for pine marten.
Red squirrel	No records of red squirrel were identified from the desk study sources. One incidental sighting of red squirrel was recorded with an individual seen along the A887. The coniferous plantation woodlands within the Survey Area are not diverse and does not offer optimal foraging or breeding conditions for red squirrel. Despite this, red squirrel is likely to occur infrequently within these areas, most likely for ad hoc foraging rather than permanent residency.
Water vole	No records of water vole were identified from the desk study sources.

Terrestrial Mammal Species	Summary of Survey Results
	No evidence of water vole was recorded during the surveys. The habitat within the Survey Area is largely sub-optimal due to the steep topography with shallow rocky ground surrounding most of the watercourses.
Badger	No records of badger were identified from the desk study sources. No badger signs or sightings were recorded during the surveys. Potentially suitable areas for sett establishment are limited to drier areas in grassland and woodlands. Otherwise, the Survey Area is largely unsuitable for the creation of setts due to the saturated peaty soils which are not favoured by badger. The Survey Area is suitable for foraging opportunities however as it offers a variety of food resources for the species.
Deer	Four records of sika deer and 18 records of red deer were identified from the desk study. Red deer droppings were recorded across the Survey Areas, particularly on higher ground. Habitat suitable for red and sika deer is present within the Site comprising woodland habitats, open moorland, upland heath and mires including bog pools, on the higher ground and a mixture of rough grassland and woodland on lower slopes.

Bats

6.5.31 Full details of bat survey results are provided in **Appendix 6.3**, and **Figure 6.5.**

Desk Study

6.5.32 The Proposed Development is not located within 10 km of any national or internationally designated sites for nature conservation with bat qualifying interests.

6.5.33 HBRG returned nine bat records from within 10 km of Study Area 1 and 2 dated within the last 10 years (2014-2024); four common pipistrelle, two soprano pipistrelle and two brown long-eared bat.

6.5.34 HBRG also returned historic records (older than 10 years) of common pipistrelle (five records), soprano pipistrelle (three records), pipistrelle species (11 records), Daubenton's bat (three records), Natterer's bat (four records) and brown long-eared bat (eight records), within 10 km of Study Area 1 and 2.

6.5.35 In review of the UK Habitats Directive Article 17 Report 'Habitats Directive Report 2019: Species Conservation Status Assessments 2019' based on JNCC 2019, the Site is located within the known UK distribution range of common pipistrelle, soprano pipistrelle, Daubenton's bat and brown long-eared bat.

Bat Habitat Suitability Appraisal

6.5.36 Habitats within the Site are considered to be of low habitat risk for bats, in accordance with criteria presented in NatureScot guidance (2021).

6.5.37 The predominantly blanket bog and wet dwarf shrub heath habitats of the proposed turbine buffers and wider Site provide relatively poor foraging opportunities for bat species. The numerous waterbodies and watercourses within the Site and plantation woodland parcels to the north-west of the Site offer more suitable foraging opportunities and also connectivity with potentially higher value habitats within the wider landscape.

Preliminary Roost Assessment

6.5.38 Potential roost features within the Site were limited; the Site is dominated by open bog and heath with limited trees, which offers negligible roost opportunities within proximity to the proposed turbines. The plantation woodland to the north-west of the Site may offer some roost opportunities, however these are likely to be low suitability and so as a whole the Site is unlikely to support maternity or significant hibernation roosts.

Bat Activity Survey

6.5.39 Common pipistrelle, soprano pipistrelle and *Myotis* species were recorded during the bat activity surveys. Of these, common pipistrelle and soprano pipistrelle are high collision risk (HCR) species, in accordance with NatureScot guidance (2021).

6.5.40 The Site is not within the published usual range of *Myotis* species, however, *Myotis* species were recorded during the bat activity surveys and therefore it is considered that one or more of this genus are present at the locality.

6.5.41 Soprano pipistrelle was the most frequently recorded species, accounting for 50.2 % of total call registrations. The species was recorded on 36 nights out of 103 and representing 4.13 passes per night for the survey period.

6.5.42 Common pipistrelle represented 48.5 % of all recordings. The species was recorded on 35 nights out of 103 and representing 3.98 passes per night for the survey period.

6.5.43 Myotis species represented 1.3 % of all recordings. The species was recorded on 3 nights out of 103 and representing 0.11 passes per night for the survey period.

6.5.44 The *Ecobat* tool identified the possible presence of roosts within proximity of the Site based on recording of activity at the Site within the species-specific emergence times.

6.5.45 *Ecobat* analysis showed that activity was recorded within the species-specific emergence time for common and/or soprano pipistrelle at two monitoring locations (MS4 and MS6).

6.5.46 Based on *Ecobat* analysis it is considered possible that there are small roosts comprising low numbers of bats in the wider area (potentially in the plantation to the north and east of the Proposed Development), although due to the low number of nights recorded and peak count it is considered unlikely that these would be significant roosts such as maternity roosts, and

are more likely to represent individual bats emerging from roosts on the periphery of the Study Area early to forage throughout the Study Area during calm, warmer nights.

6.5.47 The Site has been assessed as having an overall 'Site Risk' of 3, represent a Medium Site Risk:

- The Site 'Habitat Risk is classified as Low.
- The Site 'Project Size' is classified as being Large.

6.5.48 In summary, the Overall Risk Assessment is considered to fall under "Low Site Risk" for common pipistrelle and "Low/Medium Site Risk" for soprano pipistrelle.

Fisheries

6.5.49 This section should be read with reference to **Appendices 6.4** and **6.5** and **Figure 6.6.**

Desk study

6.5.50 HBRG returned no fish species records within 2 km of the Study Area 1 and 2.

6.5.51 There is a single watercourse designated for fish fauna within the Survey Area. The River Moriston is designated as a SAC on account of its important Atlantic salmon and freshwater pearl mussel populations.

6.5.52 The European Water Framework Directive (WFD)[19] requires that surface waterbodies in member states are classified according to ecological status. SEPA's River Basin Management Plan website confirms there are three classified watercourses within the Survey Area;

- Allt Lundie, part of the Aldernaig Burn which drains the southern part of the Site, is assessed as having an overall ecological status of 'Moderate' and 'High' access for migratory fish;
- Allt Dail a' Chuirn, which drains the southern part of the Site, is part of the Invervigar Burn, which is assessed as having an overall ecological status as 'High' and 'High' access for migratory fish; and
- Allt Phocaichain, which drains the eastern part of the Site, is assessed as having an overall ecological status as 'Moderate' and 'High' access for migratory fish.

6.5.53 The River Moriston is also a SEPA classified watercourse and lies just outwith the Survey Area. This stretch of the river is named as 'Dundreggan Dam to Bun Loyne' on SEPA's River Basin Management Plan. It is assessed as having an overall ecological status of 'Good' and has 'High' access for migratory fish.

[19] The requirements of the Water Framework Directive have been retained under the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021.

Fish Habitat Survey

6.5.54 The watercourses within the Site largely drain to the north into the River Moriston catchment, with the southern and eastern-most watercourses predominantly draining into the Caledonian Canal. The River Moriston is designated as an SAC on account of its Atlantic salmon and freshwater pearl mussel populations.

6.5.55 Allt Lundie, Allt Dail a' Chuirn and Allt Phocaichain and the River Morison are all listed as having high access for fish fauna, but there are waterfalls present on Allt Phocaichain and Allt Dail a' Chuirn which may limit migratory fish passage upstream of these features to the sections within the Site.

6.5.56 Generally, the watercourses present within the Survey Area are minor in nature, with the exception of Allt Phochaichain which is more substantial. There is some suitability for migratory salmonids in watercourses across the Survey Area, albeit largely in low numbers due to the minor nature of the majority of the watercourses. Opportunities for freshwater pearl mussel are also present, albeit limited, and there is a general lack of lamprey habitat within the Survey Area.

Fish Population Survey

6.5.57 Allt Phocaichain offers excellent mixed juvenile salmonid habitat. It is clear from the survey that this is well utilised by fish, with both salmon fry and parr present. The lower density of parr observed in this survey is a reflection of the habitat within the Site, however more suitable parr habitat along with good spawning areas make this an important stream with regard to salmon production given the paucity of good spawning tributaries within the River Moriston catchment.

6.5.58 The areas above the waterfall offer excellent spawning and mixed juvenile salmonid habitat, however this is limited to just trout due to the presence of the aforementioned waterfalls. Trout were present during the survey albeit in relatively low densities, however this was to be expected due to the location. It is important to note that trout found above such waterfalls are likely to be a resident population and may be genetically distinct to those found below the waterfalls.

6.5.59 All fish species were absent from the survey carried out on Allt Lundie.

6.5.60 The River Moriston is a highly sensitive river. The upper river is vital for the production of salmon with a number of important spawning and nursery habitats.

6.5.61 Salmon were present in 'Excellent' densities at the Moriston survey site, both fry and parr were observed in high numbers for the area surveyed. The site was representative of good juvenile habitat in the upper river.

6.5.62 The key areas of interest with regard to any developments and potential impacts on salmon are the main River Moriston and the Allt Phocaichain, in particular the lower reaches below the waterfalls. Upstream of the falls there is a potential for impacts on the resident trout population.

Freshwater Pearl Mussel Survey

6.5.63 Freshwater pearl mussels are present within the River Moriston, it is estimated that the population is *circa* 500,000 with 95 % of the population found below Dundreggan Dam. Survey results estimate that 40 % of the population is composed of juveniles (Ness District Salmon Fishery Board, 2024) indicating that successful recruitment is taking place. This is the highest percentage of juveniles recorded in any Scottish pearl mussel population.

6.5.64 Two sites were surveyed in the summer of 2024. Site one was located below the tributary Allt an Eoin and Site two was located directly below the tributary Allt Phocaichain.

6.5.65 No freshwater pearl mussels were found in any transect or quadrat at either of the sites. Despite this, a precautionary approach should be taken as the species is likely to be present, within the vicinity.

Deer

6.5.66 This section should be read with reference to **Appendix 6.6**.

Deer Appraisal

6.5.67 Red deer are the predominant species that utilise the whole estate (including the majority of the Site) and immediate surrounds. In March 2023 a drone count of the deer population was conducted around the estate's woodland area. The survey resulted in 540 red deer (95 %), 27 sika deer (5 %) and no other deer species. The density on the overall Achlain Estate (*c*.39 km^2) is therefore considered to comprise 13.8 red deer per km^2 and 0.7 sika deer per km^2 (approximate total of 14.5 deer per km^2).

6.5.68 Achlain Estate established a visual red deer count in March 2024 covering both sides of Mam a' Chroisg. The north side of the hill (Achlain Estate only and the majority of the Site) resulted in 430 counted deer, which included 159 stags (mature males), 28 knobbers (yearling males), 183 hinds (mature females) and 60 calves (< 1 year old). The south side of the hill (Achlain and Aberchalder Estate) resulted in a total of 178 deer, comprising 3 stags, 6 knobbers, 130 hinds and 39 calves. It is therefore considered that in March 2024, the combined red deer population included 608 deer within the shared estate landownership. The visual count did not include any sika deer observations as the species is difficult to detect by often remaining in woodland. Visual counts within the 54 km^2 area therefore equates to approximately 11.3 red deer per km^2.

6.5.69 Although deer populations are suggested to vary each year, it is considered that the local red deer population is relatively stable. Sika deer numbers are however suggested to be increasing due to stalking difficulties, as the species often remains within woodland. With the overall deer population being relatively stable within the estate, the total density estimate within on-site habitats is considered to range between 10.5 to 14.5 deer per km^2.

6.5.70 Potential deer population density estimates of 10.5 to 14.5 deer per km^2 within the Site are higher than the density of 3 to 5 deer per km^2 generally considered appropriate for woodland establishment and blanket bog restoration, and which would not be obtained on the basis of existing deer management strategies (Achlain Estate's target is 10 deer per km^2).

6.5.71 On the basis of estimated deer densities within the Site (10.5 to 14.5 deer per km^2), potentially adverse impacts upon ongoing local woodland establishment and proposed habitat reinstatement measures within the Site are identified. A Deer Management Statement (DMS) for the Site is therefore proposed to be developed and implemented as part of the Proposed Development, with details to be agreed post consent and secured by a condition of consent to avoid adverse impacts.

6.5.72 The DMS would include details of:

- baseline deer density estimates within the Site and/or defined deer management area;
- required deer density estimates to be maintained during the construction, operational and decommissioning phases of the Proposed Development and implementation of the HMP;
- additional deer management measures necessary to achieve required deer densities; and
- protocols for recording and monitoring.

6.5.73 The DMS would be prepared in consultation with relevant stakeholders and interested neighbouring landowners and would be finalised and agreed in consultation with the Council and NatureScot.

6.5.74 The DMS would prioritise stalking and/or collaborative culling as additional deer management measures to be implemented within the Site.

Other Species

6.5.75 NatureScot guidance (2024) advises that there are some species, which with standard 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 EcIA but may require appropriate mitigation to ensure legislative compliance.

6.5.76 On this basis, specific baseline surveys for reptiles, amphibians and invertebrates have not been undertaken to inform the design and assessment of the Proposed Development.

6.5.77 HBRG data search returned one record of a small pearl-bordered fritillary and one record of a palmate newt.

6.5.78 It is likely given the habitats present that the Site supports populations of common reptile and amphibian species, including common lizard, newt species, frog and toad. The Site may also support an assemblage of invertebrates typical of the habitats present, including some notable species.

6.6 Future Baseline

6.6.1 In the absence of the Proposed Development, or assuming a gap between baseline surveys and the commencement of construction, changes in baseline ecology conditions (i.e.

distributions and populations) are most likely to result from habitat modifications within or surrounding the Site due to land management practices.

6.6.2 In the absence of the Proposed Development, habitats within the Site are considered to largely remain under the existing management regime. This comprises grazing by livestock at the north-west around the entrance to the Access Route, some modest commercial forestry, and deer stalking within the main Development Area. Other works associated with the operational Millennium Wind Farm would also continue in the absence of the Proposed Development.

6.6.3 Commercial forestry operations within the plantation forestry, such as felling, may alter the distribution of ecological species recorded during baseline surveys; however, it is highly unlikely this would be in such a way as to substantially alter the baseline reported here.

6.6.4 The Site is not subject to any other development pressures or management which would affect the habitats or ecological species in such a way that the present baseline conditions presented here would become substantively different.

6.6.5 Whilst short-term and small-scale variability in populations and distributions may occur, and revisions to conservation statuses and designations are possible, such changes would be unlikely to qualitatively alter the conclusion of the assessment presented within and have been accounted for through the application of a precautionary approach and appropriate mitigation.

6.6.6 Increased summer and winter temperatures and higher average precipitation rates in summer and winter, predicted by climate change, are likely to result in an extended growing/breeding season with earlier in the year vegetation growth and breeding activity of key species. Increased rainfall is likely to result in greater vegetation growth, although for some botanical species it may have adverse effects (through waterlogging). Higher rates of juvenile mortality for key species may be expected as a result of higher rates of rainfall. The bat activity season is likely to be extended by the higher seasonal temperatures, but conversely higher rates of rainfall are likely to adversely affect foraging activity.

6.6.7 The opposing potential effects of climatic change on ecology receptors makes predicting future likely outcomes difficult. However, the potential effects on ecology receptors detailed in this Chapter are not predicted to substantively change in relation to climate change over the operation of the Proposed Development.

6.6.8 The future species community and habitat composition and condition at the time of decommissioning is unknown and cannot be reasonably assumed with any certainty.

6.7 Design considerations

6.7.1 The Proposed Development has been subject to a number of design iterations and evolution in response to constraints identified as part of the baseline studies, intended to reduce environmental effects (see **Chapter 2** and **Design And Access Statement** for further details).

6.7.2 In accordance with the mitigation hierarchy, the following design considerations have been incorporated to avoid and minimise adverse effects upon ecological features:

- Proposed Development design has been sensitive to the River Moriston SAC which runs parallel along the north-eastern boundary of the Site. Infrastructure have been offset from the SAC boundary as far as practicable (the nearest potential construction activity to the SAC is resurfacing works along the A887 and at the existing junction, which is situated approximately 150 m south of the SAC).
- Proposed Development infrastructure has been designed to minimise the requirement for land-take, impacts on areas of deeper peat, GWDTEs and the number of water crossings, as far as practicable.
- It has not been possible to entirely avoid areas of peatland habitats, due to the distribution of these habitat types within the Site. The layout of infrastructure (e.g. wind turbines, tracks and substation) has sought to avoid areas of deeper peat, minimising the potential for impacts to habitat types with greater future restoration potential. Should the Proposed Development received consent, a BEMP, based on the outline BEMP provided alongside this chapter (Appendix 6.7) will be delivered which would seek to enhance areas of degraded habitat (including peatland) elsewhere within the Site.
- The Proposed Development largely avoids direct impacts on watercourses, with one minor new watercourse crossing required for gaining access to T7. No upgraded watercourse crossings would be required along existing track.
- The one new crossing would be designed in accordance with Scottish Government good practice and taking due regard of SEPA guidelines to enable the passage of fish and other wildlife.
- The length of new track construction has been minimised with existing infrastructure and track/disturbed ground used to minimise land-take.
- A minimum 50 m buffer has been included around all mapped watercourses for the Proposed Development infrastructure.
- A minimum 50 m buffer (from blade tip) from all woodland has been maintained, to avoid the most potentially suitable bat foraging habitat.
- Where practicable a 50m buffer (from blade tip) from watercourses has been established. This has been maintained for all turbines, except for turbines 1 and 2, (refer to **Section 6.10** for discussion).

Embedded Mitigation Measures

6.7.3 Full details of construction phase mitigation measures for the Proposed Development would be contained within a CEMP, although an outline CEMP (oCEMP) has been prepared which provides the structure for this (see **Appendix 2.1**). The CEMP would include all good practice construction measures, sensitive timing of construction activities, pollution prevention controls, sediment management, sensitive techniques with regards to construction in

peatlands and near watercourses, which are to be implemented over the course of the construction of the Proposed Development in line with current industry and statutory guidance. The CEMP would include information on water quality monitoring during the construction phase of the Proposed Development. The CEMP would also include a commitment to no nocturnal works using artificial lighting, which could otherwise adversely affect foraging/commuting bats.

6.7.4 Good practice measures to protect retained habitats during the construction works would also be implemented, including the sensitive demarcation of working areas, to be overseen by an EnvCoW.

6.7.5 Good practice pollution prevention measures during works are discussed further in **Appendices 2.1** and **2.2**..

6.7.6 A commitment to development of a FMMP is embedded in the Proposed Development. FMMP would be implemented in the pre-, during- and post-construction phases, to monitor and prevent adverse effects to fish and would be developed in consultation with local fisheries boards.

6.7.7 Good practice measures to prevent harm to faunal species would also include SPP (see Pre-construction Surveys, below) and the careful storage of potentially dangerous substances or materials within construction compounds. Excavations would either be temporarily covered outside working hours or designed to include a ramp. On-site speed limits would also be adhered to.

6.7.8 Good practice habitat reinstatement measures would also be adopted and implemented in areas subject to disturbance during construction works as soon as it is practical to do so. Further details of habitat reinstatement measures to be implemented would be provided within the CEMP and with habitat enhancement measures provided within the oBEMP (see **Appendix 6.7)**.

Pre-construction Surveys

6.7.9 There is potential for a change in the distribution of protected terrestrial mammal species within the Site, between the completion of baseline surveys presented herein and the commencement of construction activities for the Proposed Development.

6.7.10 Pre-construction surveys for protected species would therefore be undertaken, within a defined period (as appropriate to the species being surveyed for) prior to the commencement of construction works as outlined within the oCEMP (see **Appendix 2.1**). This would cover all areas within 250 m of the Proposed Development infrastructure and associated working areas. Trees or structures within a Zone of Influence (ZoI) of construction works would be surveyed for the presence of bats roosts and red squirrel dreys.

6.7.11 The results of the pre-construction surveys would inform the need for further mitigation (if required) to be implemented in accordance with approved SPPs, further surveys and/or species to be considered, sensitive working practices, and the requirement to consult with NatureScot, in relation to protected species licensing.

Species Protection Plans

6.7.12 Baseline surveys have informed the species likely to be present within the Site, or for which suitable habitat features exist and there is the potential for them to be present in the future. SPPs covering key protected species, including otter, pine marten, badger, water vole and red squirrel, would be drafted post-consent for approval by the Council and NatureScot. These SPPs would set out mitigation measures to be implemented and potential licensing requirements in the event that pre-construction surveys find evidence of active places of shelter (e.g. roosts, holts, dens, setts) within a ZoI of construction works, to prevent breaches of legislation relating to disturbance and/or displacement.

Environmental Clerk of Works

6.7.13 A suitably qualified EnvCoW would be employed for the duration of the construction and reinstatement periods, to ensure ecological interests are safeguarded, although this may not necessarily be a full-time role throughout. The role of the EnvCoW related to ecological work would include the following tasks:

- provide toolbox talks and information to all staff on-site, so staff are aware of the ecological sensitivities within the Site and the legal implications of not complying with agreed working practices;
- agree and monitor measures designed to minimise damage to retained habitats;
- undertake pre-construction surveys and advise on ecological issues and working restrictions where required;
- complete Site-supervision works as required, in relation to sensitive habitats and protected species;
- report to the Council any material breaches of the CEMP; and
- oversee restoration of working areas following construction.

Operational Period

6.7.14 Direct effects for sensitive ecological receptors (such as habitat loss and disturbance) are not anticipated to occur during the operational period of the Proposed Development with good practice measures in place, including pollution prevention controls and operational vehicles keeping to defined access routes.

6.7.15 During the operation of the Proposed Development, maintenance visits would be infrequent and unlikely to result in disturbance to ecological receptors.

Biodiversity Enhancement Management Plan

6.7.16 In accordance with NPF4 Policy 3, the Proposed Development has undergone several design iterations in response to the findings of baseline ecological and ornithological studies, to minimise potentially significant effects on sensitive ecological and ornithological features and peat reserves thereby complying with the first step of the mitigation hierarchy, i.e. avoidance, whilst balancing the need for the development to contribute a meaningful contribution to

Scotland's net zero target. Specifically, the Proposed Development design has sought to: avoid habitat losses; minimise watercourse crossings, design those watercourse crossings required sensitively for wildlife and buffer infrastructure from areas identified as being important for sensitive species.

6.7.17 The Applicant has committed to the provision of a BEMP to reduce adverse environmental effects and also to provide significant enhancements for biodiversity as part of the Proposed Development, to be implemented over the operational lifetime. This, in outline form, is provided as **Appendix 6.7**, and has been embedded in the Proposed Development and considered during the design stage. Measures to provide habitat enhancements within and surrounding the Site have been proposed for appropriate ecological features known to be present at the Site, irrespective of their status as IEFs, and irrespective of whether they are assessed as being potentially subject to significant adverse effects arising from the Proposed Development, in accordance with good practice and the requirements of NPF4 Policy 3.

6.7.18 These measures are focussed on conserving, restoring and enhancing, and improving the overall condition and connectedness of bog, heath, grassland and riparian habitats at and adjacent to the Site. Such measures would also provide enhanced opportunities for associated biodiversity including protected terrestrial mammal species, invertebrates and plant species and which would not be possible without intervention. Measures proposed would further provide benefits for Important Ornithological Features (IOFs) at the Site; for further discussion relating to IOFs see **Chapter 7**.

6.7.19 The oBEMP (see **Appendix 6.7**) includes restoration measures of the most sensitive habitats within the Site (including peatland), and subsequent monitoring which would measure the effectiveness of restoration works, with restoration works adaptable in response to monitoring outcomes. Restoration works would benefit ecological species (such as terrestrial mammals, foraging/commuting bats, fish and plants) present on, and close to, the Site.

6.7.20 Together with habitat creation and management of opportunities for associated species, such measures would improve connectivity for wildlife over an extensive area beyond the footprint of the Proposed Development.

6.7.21 The oBEMP proposes the following five Aims, and associated Objectives:

- Aim 1: Restoration of degraded peatland and heath habitats:
  - Objective 1: Promote Improved Structural Diversity of Blanket Bog.
- Aim 2: Enhancement of riparian habitats:
  - Objective 1: Riparian Planting.
  - Objective 2: Management of Fish Cover.
- Aim 3: Native woodland planting:
  - Objective 1: Infill an Area of Disused Track with Trees.
- Aim 4: Bracken control:
  - Objective: Selective Removal of Bracken.
- Aim 5: Reduction in attraction risks for eagles:
  - Objective: Carrion Removal.

6.7.22 The oBEMP would be finalised into a BEMP if the Proposed Development is consented.

6.8 Important Ecological Features

6.8.1 A summary of IEFs is provided in **Table 6.10**. The level of importance assigned to each feature is based upon baseline survey results and professional judgement. Only IEFs identified during baseline information gathering are considered in **Table 6.10**, with any unidentified IEFs accordingly scoped out of detailed assessment.

6.8.2 Features which are unlikely to be affected, or which are considered sufficiently widespread, unthreatened or resilient to impacts from the Proposed Development, and hence would remain viable and sustainable, have not been subject to a detailed assessment and have been scoped out.

6.8.3 Mitigation measures are however outlined as appropriate to ensure legislative compliance.

6.9 Assessment of Effects

6.9.1 The assessment presented within this Chapter has been undertaken in accordance with the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (2018) and considers the following four main potential impacts upon ecological features associated with wind farm developments:

- designated Sites - potential indirect effects upon designated sites for nature conservation.
- habitat Loss/deterioration - direct and indirect loss and deterioration of habitats.
- mortality/Injury - incidental loss of life or injury through construction activities to species, and
- disturbance/displacement of species - disturbance and displacement of faunal species; loss, damage or disturbance to their breeding and/or resting places.

6.9.2 The potential for effects are considered as a result of the Proposed Development alone and cumulatively, additional to, and in-combination with other wind farm developments.

6.9.3 CIEEM guidelines (2018) stipulate that it is not necessary to carry out a detailed assessment of impacts upon ecological features that are sufficiently widespread, unthreatened and resilient to the impacts of the Proposed Development.

6.10 Potential Effects

6.10.1 This section identifies the potential effects upon habitats (Annex I, SBL, priority peatland and potential GWDTE habitats), bats (foraging/commuting) and deer as a result of the Proposed Development alone, and with cumulative in-combination effects with other wind farm developments, in the absence of additional mitigation and enhancement which is considered in **Section 6.7.** Potential effects to qualifying features of the River Moriston SAC are assessed in **Section 6.16**.

6.10.2 **Table 6.10** summarises the potential effects of the Proposed Development on IEFs.

Table 6.10: Summary of Important Ecological Features

Ecological Feature	Geographic Scale	Scoped In or Out	Justification
River Moriston SAC (and Atlantic salmon and freshwater pearl mussel)	International	In – construction phase only	There is hydrological connectivity between the Proposed Development and the SAC via watercourses within the Site which drain towards the River Moriston SAC. No direct effects, from construction activity, on the River Moriston SAC are anticipated to occur as a result of the Proposed Development and the potential for indirect effects on the SAC have also been minimised, with all proposed infrastructure and construction corridors located approximately 150 m from the SAC. However, as part of the proposed ecological enhancements improving/creating in-channel fish cover (i.e. placing boulders and/or woody debris within the watercourse) is proposed along with riparian planting on the banks of the SAC. A single minor watercourse (tributary of Allt Phocaichan) crossing is proposed to facilitate the Proposed Development. This watercourse crossing is located between proposed turbines 6 and 7. The watercourse is assessed as being an ephemeral peaty headwater which offers negligible opportunities for fish; however, it is hydrologically connected to the River Moriston. The nature of potential adverse impacts on Atlantic salmon and freshwater pearl mussel relates to the construction phase (i.e., pollution/sedimentation incidents and noise/vibration) Atlantic salmon and freshwater pearl mussel could be adversely impacted through injury/mortality/disturbance/habitat loss/degradation. Proposed in-channel and riparian ecological enhancements would seek to complement and support conservation efforts by local fisheries interest groups within the wider river catchments. Consideration of the SAC in relation to HRA, including screening for Likely Significant Effects (LSE) and provision of information to inform Appropriate Assessment (AA) is provided in **Section 6.16**.
Ancient Woodland	National	Out	The closest area of ancient woodland (of semi-natural origin) to the Proposed Development is located approximately 80 m south-west. The stand of ancient woodland is outwith the Site and no direct impacts on ancient woodland are anticipated. As part of the ecological enhancements bracken control is proposed within marshy grassland and dry dwarf shrub heath to the west/south-west of the ancient woodland. No encroachment from any

Ecological Feature	Geographic Scale	Scoped In or Out	Justification
			construction activity into the ancient woodland is likely due to being separated by the Allt an Laoigh. Additionally, embedded mitigation, including pollution prevention control, together with good practice measures to protect retained habitats, would be undertaken, in accordance with the CEMP, as detailed in **Section 6.7**.
Annex I, SBL, priority peatland and potential GWDTE habitats - Dry dwarf shrub heath -Wet dwarf shrub heath -Blanket bog -Wet modified bog -Acid/neural flush	International and National	In – construction phase only	Habitats are present within the Site which are included on Annex I of the Habitats Directive, listed on the SBL, classed as priority peatland and potentially have groundwater dependency. Habitat loss as a result of the Proposed Development has been minimised through a sensitive and iterative design process, however direct land-take resulting in the loss of some Annex I, SBL, priority peatland and potential GWDTE habitat types would be unavoidable. Additionally, temporary habitat losses are also anticipated to occur during the construction phase of the Proposed Development. The potential for indirect effects on adjoining/nearby habitats through local changes to hydrology is also considered within the assessment. Direct effects on habitats are not anticipated to occur during the operational phase with good practice measures in place, including pollution prevention controls and operational vehicles keeping to defined access routes. Furthermore, effects of pollution and run-off to habitats during the construction phase are also scoped out with the implementation of the CEMP (see outline CEMP in **Appendix 2.1**). As such, the potential for impacts upon Annex I, SBL, priority peatland and potential GWDTE habitats through habitat loss only during the construction stage is assessed within this Chapter.
All other habitats and vegetation	International to Local	Out	Habitats within the Site which are Annex I, SBL, priority peatland or potential GWDTE habitats (marshy grassland, lichen and bryophyte heath, wet heath and acid grassland, flush and spring – acid, flush and spring – basic, flush and spring – bryophyte dominated spring, swamp and standing water – oligotrophic), but not subject to direct or indirect effects of the Proposed Development by virtue of distance from the Proposed Development are scoped out. As detailed in **Section 6.4** Habitats and vegetation communities which are not listed in Annex I (of the Habitats Directive), the SBL, are priority peatland or which are considered of low potential groundwater dependency, are also scoped out.
Otter, water vole, badger, pine marten and red squirrel	Local	Out	No records of the listed protected species were returned from the record data search. No evidence of badger or water vole were recorded during the surveys. Otter spraints were recorded; however, these were assessed as old and not indicative of frequent use within the Survey Area. Pine marten scats were widely but sparsely recorded and one sighting of a red squirrel was noted.

Ecological Feature	Geographic Scale	Scoped In or Out	Justification
			Baseline information collected via desk study and field surveys has not identified the Site as being important for anticipated significant effects on populations of the listed protected species. Implementation of good practice construction measures and pre-construction surveys (as detailed in **Section 6.7**) are considered appropriate to avoid any potentially significant adverse effects upon species including otter, water vole, badger, pine marten and red squirrel.
Deer	Local	In – construction and operational	The Proposed Development would result in the loss of some open upland and moorland habitat, however, the availability of similar habitats within the immediate and wider surrounding area, available for deer, is extensive. A Deer Management Statement for the Site is proposed to be developed and implemented as part of the Proposed Development. However, as agreed through consultation, deer are considered within this detailed assessment.
Bats - roosting	Local	Out	All bat species are protected under the Conservation (Natural Habitats &c.) Regulations 1994 (as amended), the Wildlife and Countryside Act 1981 (as amended) and the Nature Conservation (Scotland) Act 2004 (as amended). They are also SBL priority species. No trees or structures with the potential to support maternity roosts and/or significant swarming or hibernation roosts were identified within 200 m plus rotor radius of the Proposed Development turbines, or along existing or proposed access routes and therefore roosting bats are scoped out of the assessment.
Bats – foraging/commuting	Local	In – construction and operational phases	The Overall Risk Assessment is considered to fall under “Low/Medium Site Risk” when using the median activity percentile and the maximum activity percentiles for soprano pipistrelle. Whereas the Overall Risk Assessment is considered to fall under “Low Site Risk” when using the median activity percentile and the maximum activity percentiles for common pipistrelle. Myotis species are not considered further given they are not ‘high collision risk species’ (see **Appendix 6.3**). The nature of potential impacts on foraging and commuting bats relate to the construction phase (loss of foraging habitat) and the operational phase (loss of foraging habitat; death or physical injury via collision or barotrauma; and displacement of individuals or populations from the area). As such, commuting and foraging bats are considered in this assessment.
Fisheries (excluding Atlantic salmon and	Local	Out	Potential effects on fisheries (excluding fresh-water pearl mussel and Atlantic salmon) are scoped out given the good practice scheme design and embedded mitigation measures. This

Ecological Feature	Geographic Scale	Scoped In or Out	Justification
fresh-water pearl mussel)			includes ensuring that the free passage of fish within the Site is maintained (which would be built into the Proposed Development). Adoption of embedded mitigation which would include the maintenance of appropriate buffers between the Proposed Development and watercourses, pollution prevention controls, sediment management and sensitive timings of works associated with watercourses, such as the construction of the one minor watercourse crossing (to not occur within spawning, incubation and emergence times), sensitive techniques with regards to construction near watercourses is to be implemented in line with current industry and statutory guidance. Additionally, a commitment to develop a FMMP is embedded in the Proposed Development. The FMMP would be implemented in the pre-, during- and post-construction phases, to monitor and prevent adverse effects to fish in consultation with the local fisheries board. These measures are considered appropriate to avoid any potentially significant adverse effects upon fish (excluding freshwater pearl mussel and Atlantic salmon; see above in the context of these being qualifying features of the River Moriston SAC) and are scoped out of detailed assessment.

6.10.3 The Proposed Development has been assessed for an operational life of 35 years.

Construction

6.10.4 Potential construction phase impacts on ecological features associated with the Proposed Development are considered to relate to:

- direct land-take (habitat loss) to accommodate the Proposed Development;
- temporary disturbance and land-take for laydown areas and construction compounds;
- disturbance to, fragmentation or severance of connecting habitat or potential commuting routes within, and adjacent to, the Site; and
- disturbance and pollution (indirect effects such as noise and vibration, dust, pollution from surface water run-off) resulting from Site clearance and construction, plant and vehicles movements, and Site workers' activities.

6.10.5 Potential effects are assessed on the assumption that embedded mitigation measures, as detailed in **Section 6.7**and within **Chapter 2** are implemented.

Habitats and Vegetation

6.10.6 There are two main ways by which habitats and vegetation may be affected by habitat loss as a result of the construction phase of the Proposed Development:

- direct loss – the loss of habitats and vegetation under the footprint of the Proposed Development; and
- indirect loss – calculated for Annex I, SBL, priority peatland, and potential GWDTE habitats which are located within 2 m and 10 m of direct habitat loss areas, to account for potential changes in habitat vegetation structure due to drying effects as a result of construction works.

6.10.7 The potential for effects upon the hydrological supporting conditions of bog, water quality, soils and peat as a result of surface and groundwater flows, sediment and contaminant discharges, soil loss, erosion and compaction are detailed where relevant within '**Chapter 8**.

6.10.8 For the purposes of assessment, a precautionary approach has been taken which assumes that direct habitat loss and indirect loss of habitats represents a permanent, irreversible adverse effect. Calculations of direct habitat loss have been carried out based on the total earthworks footprint, in accordance with guidance (NatureScot, 2024), with indirect loss calculated within a 10 m (blanket and wet modified bog) or 2 m (all other habitats) buffer of these earthworks areas. In practice, areas of habitat beyond the direct loss may not be subject to any indirect impacts. It is also considered that the majority of the earthworks and areas of indirectly/temporarily affected habitat would be successfully fully reinstated following construction in accordance with the detailed CEMP and so estimated losses represent a precautionary worst-case scenario, this is discussed further in the impact assessment where relevant.

6.10.9 **Table 6.11** details the estimated direct and indirect/temporary habitat losses as a result of the construction of the Proposed Development, and potential effects on habitats considered to be IEFs in the context of the Proposed Development (as detailed in **Table 6.10**). Note that the Site supports shallow peat in mosaic with deeper areas, and so the presence of soil designated as 'peat' is not necessarily correlated in all cases with the overlying recorded habitat community, and both NatureScot and SEPA recognise the distinction between peatland habitats and peat soils (NatureScot, 2016). As such the extent of loss of polygons assigned as blanket bog habitat will not directly correspond with calculations of extraction and loss of peat soils, as addressed in **Chapter 8.**

6.10.10 As detailed within the results section, the M2, M3, M17a/b and M19a/b communities have been listed as priority peatland communities where impacts have the potential to raise issues of national interest. Estimated direct and indirect/temporary habitat losses of these habitats, including mosaics containing these habitats, have been denoted with an '*' within **Table 6.11**.

6.10.11 Total direct land-take for the Proposed Development would be 4.87 ha, of which 4.08 ha are accounted for in **Table 6.11**. The remaining habitats are not Annex I, SBL, priority peatland and/or potential GWDTE habitats which have been scoped out of this assessment.

6.10.12 Temporary and potential indirect losses of protected and notable habitats within 10 m of the Proposed Development are of a greater extent (see **Table 6.11**), though are less certain to take place.

Table 6.11: Summary of Habitat Losses on Scoped in Habitats

Phase 1 Habitat Type and Code	Phase 1 Code	NVC Code	Direct Loss (ha)	Temporary and Indirect+ Loss (ha)	Total (Direct Loss (ha)	Total Temporary and Indirect Loss (ha)	Total Loss (ha)
Dry dwarf shrub heath	D1.1	H12a	0.10	0.15	0.11	0.15	0.27
		H16b	0.01	0			
Wet dwarf shrub heath	D2	M15b	0.34	0.54	1.40	2.15	3.55
		M15b/c	0.08	0.13			
		M15c	0.99	1.48			
	D2/E1.6.1	M15b/M19b*	0.13	0.51	0.32	1.37	1.69
		M15c/M17b*	0.19	0.85			
Blanket bog	E1.6.1	M17a/b*	0.04	0.24	2.24	8.74	10.98
		M17b*	1.51	6.69			
		M17b/M19b*	0.35	0.85			
		M19a*	0.04	0.12			
		M19b*	0.30	0.74			
		M2*	0	0.01			
		M2/M3*	0	0.10			
	E1.6.1/D2	M19b/M15c*	0	0.02	0	0.02	0.02
Wet modified bog	E1.7	M25a	0.01	0.05	0.01	0.05	0.06
	Total				4.08	12.47	16.55

* Priority peatland communities (of possible national interest).

+ indirect loss calculated within a 10 m (blanket and wet modified bog) or 2 m (all other habitats) buffer of earthworks

Dry dwarf shrub heath

6.10.13 Dry dwarf shrub heath is a widespread habitat throughout Scotland. In total, dry dwarf shrub heath habitat within the Site, including in mosaic where it was recorded as the primary component, totals 60.24 ha (3.2% of total area within the Site). It was also recorded as a minor or secondary mosaic component of a further 3.84 ha (0.2% of total area within the Site). The dry dwarf shrub heath within the Site is noted to be subject to impacts from browsing by herbivores and past muirburn (in some locations), with the vegetation recorded noted to be short. In many areas of the Site, it is found in mosaic with other habitats, including acid grassland, bracken and lichen/bryophyte heath. A total of 0.27 ha of H12a and H16b heath (0.42% of the total area of dry dwarf shrub heath where the community is the primary or secondary component, within the Site) would be lost to the Proposed Development. No mosaics which include dry dwarf shrub heath would be lost directly or indirectly to infrastructure.

6.10.14 Given the limited extents of higher quality heath to be lost, loss of dry heath associated with the Proposed Development is considered to constitute a permanent impact of **low** adverse magnitude at an **international** scale, resulting in a **minor adverse** effect which is **Not Significant** in the context of the EIA Regulations. Measures included in the oBEMP include bracken control in areas where extensive bracken is encroaching on the heath, which would improve the condition of this habitat in other areas of the Site.

Wet dwarf shrub heath

6.10.15 Wet heath is widespread throughout northwestern Scotland. M15 wet heath is found in areas with a moderate to high rainfall and is the typical form of wet heath in the north and west of the UK. Wet dwarf shrub heath is more extensive within the Site than dry dwarf shrub heath. Wet dwarf shrub heath is the primary habitat component of 436 ha within the Site. It is also found as a secondary or minor component in a further 117 ha in mosaics with blanket bog, acid/neutral flush and basic flush. A total of 3.55 ha of M15b/c and 1.69 ha of mosaics of wet dwarf shrub and blanket bog would be lost directly or indirectly to infrastructure. This accounts for a total loss of 5.64 ha of the 553 ha (1.01 %) of habitat where wet dwarf shrub is present within the Site. This is considered to represent a permanent impact of no greater than **low** adverse magnitude at an **international** scale, resulting in a **minor adverse** effect which is **Not Significant** in the context of the EIA Regulations.

Blanket bog

6.10.16 Blanket bog is the most extensive habitat within the Site, comprising 870.78 ha where blanket bog is either the primary component or within a mosaic. Habitat within the upper reaches of the Site consists almost entirely of blanket bog, made up principally of priority peatland comprising M17 and M19 NVC habitat communities, interspersed with extensive areas of M1, M2 and M3 bog pools.

6.10.17 The Peatland Condition Assessment found that the quality and condition of the bog varies widely across the Site. Of the 109 polygons of blanket bog that were assessed in the survey,

28 polygons were classed as good (near natural), 34 were moderate (modified), and the remaining 47 polygons were classed as being in poor (highly modified) condition.

6.10.18 The total direct and potential indirect loss of blanket bog and blanket bog mosaics (where blanket bog is the primary component) is 11 ha (see **Table 6.11**), equating to 1.26 % of its extent within the Site. Careful design has sought to avoid blanket bog within the Site, as far as practicable, although it is acknowledged that given the extent of the bog habitat some losses are unavoidable.

6.10.19 Of this loss of blanket bog, 0.11 ha is attributed to potential indirect loss of M2 and M2/M3 mosaic which represents bog pools. A total area of 70.56 ha of bog pool communities (where M1, M2, M3 are the primary or secondary component) have been recorded on the Site. Indirect loss of bog pools due to the proposed development accounts for 0.77 % of its extent within the Site.

6.10.20 It is considered that impacts associated with loss of blanket bog at the Proposed Development would represent a long-term adverse impact of **medium** magnitude at an **International** scale, resulting in a **moderate/minor adverse** effect and so **Not Significant** in the context of the EIA Regulations.

Wet modified bog

6.10.21 Wet modified bog is the primary component of 61.2 ha of the Site, and a further 138.26 ha where wet modified bog is the secondary component in mosaics with mixed plantation woodland and wet dwarf shrub.

6.10.22 The total direct and potential indirect loss of wet modified bog and mosaics of wet modified bog is 0.06 ha, equating to 0.01 % of its total extent (where wet modified bog is the primary or secondary component) within the Site. This is considered to represent a long-term adverse impact of **low** magnitude at a **Regional** scale, resulting in a **minor/negligible adverse** effect and so **Not Significant** in the context of the EIA Regulations.

6.10.23 Enhancement measures proposed, as provided in the oBEMP (**Appendix 6.7**) are also expected to lead to an overall increase in the quality of wet modified bog habitats at the Site.

Potential GWDTE

6.10.24 In addition to protected and/or sensitive habitats as summarised above, the surveys also recorded several habitat communities within the Site which are indicative of potential GWDTE. **Table 6.8** summarises the NVC habitat communities recorded within the Site which indicate that a habitat may be either highly groundwater dependent or moderately groundwater dependent, depending on the hydrogeological setting (SEPA, 2017). Actual GWDTE status, based on investigation of underlying geological and hydrological context, is discussed in **Chapter 8**.

6.10.25 For discussion regarding the potential for areas of this habitat to be GWDTE, and so protected under the Water Framework Directive, see **Chapter 8**.

6.10.26 Some of the habitats scoped out of EcIA, for example marshy grassland, may represent GWDTE under certain hydrogeological conditions; for further discussion refer to **Chapter 8**.

Notable Flora Species

6.10.27 Notable species recorded within the Site; great sundew, alpine bearberry, dwarf birch and three-ranked spear moss would not be directly or indirectly impacted by the Proposed Development as they are all situated over 2 m from Proposed Development. With the closest being dwarf birch situated 7 m from the Proposed Development, alongside the existing track between proposed turbines 6 and 7. Therefore, there would be a **negligible** magnitude of impact, at the **International** scale resulting in a **negligible** adverse effect which is considered **Not Significant** in the context of the EIA Regulations.

Deer

6.10.28 During construction works, deer have the potential to be displaced from parts of the Site depending upon the location of works. This may reasonably result in the temporary/short-term relocation of some grazing activities to other parts of the Site away from construction areas, or deer seeking shelter and grazing opportunities in habitats outwith the Site. The re-distribution of deer within the Site as a result of construction works, may however result in additional temporary and periodic grazing pressures within alternative habitats within and adjacent to the Site. Such displacement is however likely to be highly localised to the immediate vicinity of the works. Additionally, no woodland (shelter for deer) is anticipated to be lost to facilitate the Proposed Development, which could potentially otherwise displace deer outwith the Site.

6.10.29 The potential for the displacement of deer onto surrounding roads is considered to be limited, with the direction of deer displacement reasonably expected to occur into adjacent available woodland cover to the north-west, north and east of the Site. No anticipated change to existing deer numbers crossing the local road network and potential for Deer Vehicle Collisions (DVCs) is therefore anticipated.

6.10.30 Some temporary, open excavations may be created as part of the Proposed Development within suitable foraging areas. As detailed in **Appendix 2.2**, these excavations should be covered outside work hours to ensure that no animal, including deer fall in. If excavations are left open, boards should be positioned so that any animal can escape. These measures would be secured via the CEMP. The potential for deer collision with plant machinery or vehicles within the Site as part of construction works would also be avoided through adherence to on-site speed limits which would be detailed in a future CEMP.

6.10.31 The Proposed Development would result in the loss of open upland, moorland habitat. However, the availability of similar habitats within the immediate and wider surrounding area, available for deer, is extensive.

6.10.32 The Proposed Development does not include the inclusion of permanent deer fencing around turbines or specific habitats; however, Achlain Estate would include fencing around newly established plantation as part of their forestry strategy. Local deer populations would therefore continue to be able to move freely within the remainder of the Site, as well as moving freely into and out of the Site from the surrounding area.

6.10.33 Impacts on local deer populations are therefore predicted to be no more than a short-term, **low** magnitude of impact at the **Local** scale, resulting in a **minor/negligible** adverse effect which is considered **Not Significant** in the context of the EIA Regulations.

Bats

6.10.34 The construction of the Proposed Development would result in the permanent and temporary loss of habitats, which are typically of low foraging and commuting value to bats. Baseline surveys have also demonstrated an Overall Risk Assessment of "Low/Medium Site Risk" for soprano pipistrelle and 'Low Site Risk' for common pipistrelle.

6.10.35 The predominantly blanket bog and wet dwarf shrub heath habitats of the proposed turbine buffers and wider Site provide relatively poor foraging opportunities for bat species. The numerous waterbodies and watercourses within the Site and plantation woodland parcels to the north-west of the Site offer more suitable foraging opportunities and also connectivity with potentially higher value habitats within the wider landscape.

6.10.36 The baseline surveys revealed activity of common pipistrelle and soprano pipistrelle species on-site within the established emergence time for these species (as detailed in **Appendix 6.3**). It is considered possible that there are small roosts comprising low numbers of bats in the wider area (potentially in the plantation to the north and east of the Proposed Development), although due to the low number of nights recorded and peak count it is considered unlikely that these will be significant roosts such as maternity roosts, and are more likely to represent individual bats emerging from roosts on the periphery of the Study Area early to forage throughout the Study Area during calm, warmer nights.

6.10.37 Noise, lighting and dust generation during the construction period could potentially result in disturbance and reduced foraging opportunities for bats, particularly if night-time work is undertaken. However, extensive night-time working is not anticipated during the core bat activity period, April to September, due to available daytime working hours. Embedded mitigation and good practice measures would be adopted during construction which would minimise impacts from noise, lighting and dust generation. These measures are detailed in **Section 6.7**, as well as in the **Appendices 2.1** and **2.2**.

6.10.38 The bat population on the Site has been valued at a **Local** level due to the species recorded being widespread and common and/or only likely to be present in low numbers.

6.10.39 Given the largely suboptimal foraging/commuting suitability of the habitats which would be lost as a result of the Proposed Development, and the presence of woodland and watercourses in the wider area which offer higher suitability habitat, loss and damage to bat foraging or commuting habitat as a result of the Proposed Development is considered to be inconsequential at a population level and are subsequently considered to represent permanent, **low** magnitude of impact, resulting in a **minor/negligible adverse** effect which is considered **Not Significant** in the context of the EIA Regulations.

Operation

6.10.40 Operational effects are defined as effects following the construction of the Proposed Development. Operational effects generally relate to disturbance of adjacent habitats or species, on either a temporary or permanent basis. Some effects may reduce with habituation or remain for the lifetime of the Proposed Development.

6.10.41 During the operational phase, with the application of good practice measures relating to wind farm operation and maintenance activities, it is considered that potential adverse impacts are restricted to the risk of collision mortality for common and soprano pipistrelle bats and temporary displacement of deer. Direct adverse effects for other IEFs (such as habitat loss and disturbance) are not anticipated to occur during the operational period.

Deer

6.10.42 Research suggests that deer are not particularly disturbed by the presence of operational wind turbines (Helldin *et al.,* 2012 and Reksten, 2016) but do have the potential to be temporarily displaced during operational maintenance works. During operational maintenance works, deer have the potential to be displaced from parts of the Site depending upon the location of works. This may reasonably result in the temporary/short-term relocation of some grazing activities to other parts of the Site away from maintenance areas, or deer seeking shelter and grazing opportunities in habitats outwith the Site. The re-distribution of deer within the Site as a result of maintenance works, may however result in additional temporary and periodic grazing pressures within alternative habitats within and adjacent to the Site.

6.10.43 The potential for deer collision with plant machinery or vehicles within the Site as part of operational maintenance works would be avoided through adherence to on-site speed limits.

6.10.44 Impacts on deer are therefore considered to represent **negligible** magnitude of impact, at the **Local** scale resulting in a **negligible** adverse effect which is considered **Not Significant** in the context of the EIA Regulations.

Bats

6.10.45 Operational turbines can affect bats in a number of ways, although the main concerns to species populations relates to collision mortality, barotrauma (i.e. injury caused by a change in air pressure) and other injuries resulting from collision with, or flying in very close proximity to moving turbines (NatureScot, 2021). The Proposed Development also has the potential to result in the loss of, or damage to, commuting or foraging habitat and displacement of individuals or populations from the area (see NatureScot, 2021).

6.10.46 The assessment of operational effects is restricted to common and soprano pipistrelle only, as they are categorised as of high risk of collision from wind turbine developments and were the two most commonly recorded species accounting for 98.7 % of all bat recordings.

6.10.47 The assessment of potential effects upon bats resulting from the operation of the Proposed Development's turbines has been based on the two-stage methodology set out in NatureScot guidance (2021). Full details are presented in **Appendix 6.3.**

6.10.48 In accordance with NatureScot guidance (2021) a Stage 1 'Initial Site Risk Assessment' of the potential risk level of the Proposed Development site has been undertaken based on a consideration of the Site's habitats and development-related features. This concludes that the Site is assessed as having an overall 'Site Risk' of 3, which represents a Medium Site Risk.

6.10.49 Stage 2 'Overall Risk Assessment' of the two-stage process detailed within NatureScot guidance (2021) has then subsequently been completed to provide an overall assessment of risk to bat species, by considering the conclusions of Stage 1 in relation to relative levels of bat activity tool and considering the vulnerability of species recorded, at the population level.

6.10.50 In accordance with NatureScot guidance (2021), Stage 2 has been carried out separately for all high collision risk species recorded during baseline bat activity surveys, and which includes the following species:

- soprano pipistrelle; and
- common pipistrelle.

6.10.51 The calculated Stage 2 'Overall Risk Assessment' per species, both temporally and spatially is presented in **Appendix 6.3**.

6.10.52 In summary, the Overall Risk Assessment is considered to fall under "Low/Medium Site Risk" when using both the median activity percentile and the maximum activity percentiles for soprano pipistrelle. Whereas the Overall Risk Assessment is considered to fall under "Low Risk" when using both the median activity percentile and the maximum activity percentiles for common pipistrelle. On this basis, the Stage 2 overall risk assessment concludes that there is a Low/ Medium likelihood of the Proposed Development resulting in significant impact on bat species populations.

6.10.53 The risk of operational mortality to bats is generally acknowledged to be lowest at locations with low bat activity. Additionally, the availability of suitable foraging habitats within 1.5 km of proposed turbine locations, such as watercourses, waterbodies and woodland, is suggested to have a protective effect on bat species, with bats more likely to use these high value foraging habitats (and other suitable linear features) than be attracted to the turbines (Mathews *et al.,* 2016).

6.10.54 When using the median percentile, the Overall Risk Assessment for common pipistrelle and soprano pipistrelle was low across all MSs, with the exception of monitoring station (MS) 2 which was moderate for soprano pipistrelle. MS 2 is located within wet dwarf shrub, and within proximity to proposed turbines T01 (623 m north-east, T02 437 m north and T03 343 m west).

6.10.55 NatureScot guidance[14]advises that to reduce potential impacts upon bats resulting from operational wind turbine development, a 50 m 'stand-off' distance should be maintained around bat habitat features, into which no part of the turbine intrudes.

6.10.56 In accordance with NatureScot guidance calculations for estimating buffer distances has been calculated based on the following specification:

- Turbines 1, 2, 3, 7 and 8 have a maximum tip height of 180 m and hub height of 102.5 m;
- Turbines 4, 5 and 6 have a maximum tip height of 200 m and hub height of 122.5 m.
- Feature height is 0 m.

6.10.57 Therefore, turbines 1, 2 ,3 ,7 and 8 require a 76 m 'stand-off' distance from watercourses and turbines 4, 5 and 6 require a 35 m 'stand-off' distance.

6.10.58 Turbine 1 is located within 67 m of a watercourse.This encroaches into the recommended offset (by 9m) from key habitat features for bats based on the turbine specification for the Proposed Development. However, the activity levels recorded at MS 1 and 3 (MS closest to turbine 1) recorded low levels of pipistrelle activity. The risk of operational mortality to bats is generally acknowledged to be lowest at locations with low bat activity. Therefore, analysing data collected within the Site, and put into context by the relative activity levels in higher value habitats outside the Site, indicates relatively low activity levels at MS 1 and 3 in proximity to the turbines. This is considered representative of the low value habitats for bats. Additionally, the watercourse within proximity to turbine 1 is minor, headwater feature devoid of vegetation, rather than established watercourse with linear tree lines/vegetation, which would provide high value foraging/commuting features for bats.

6.10.59 The bat population on the Site has been valued at a **Local** level due to the species recorded being widespread and common and/or only likely to be present in low numbers. Based on activity levels recorded and subsequent analysis as outlined above, the risk of mortality or injury impacts for populations of locally occurring bat species are considered to be low. The Site is not considered to represent a site of concern for bat collision risks following the approach to assessment set out in the NatureScot guidance (2021). It is however, acknowledged that low risk sites can still result in bat casualties, but for which embedded 'stand-off' distances from habitat features in accordance with NatureScot guidance (2021) is considered adequate mitigation to avoid potentially significant operational mortality risks to bat populations at most low-risk locations. Where the 'stand off' distances cannot be maintained activity levels have been recorded as low and the watercourses as suboptimal foraging and commuting resources for bats.

6.10.60 To reduce effects on foraging/commuting bats, due to encroachment within the 'stand-off' distance during the operation phase of the Proposed Development, additional precautionary mitigation in the form of "feathering" would be implemented. Operational monitoring would also be adopted to establish effectiveness of feathering. Refer to **Section 6.11** for further discussion on mitigation measures for bats.

6.10.61 Operational impacts on bats are therefore considered to represent a **low** magnitude of impact, resulting in a **minor/negligible** adverse effect which is considered **Not Significant** in the context of the EIA Regulations.

Decommissioning

6.10.62 Decommissioning, including the removal of infrastructure of the Proposed Development, would involve earthworks which in the absence of mitigation have the potential to cause

pollution, and/or to adversely impact habitats and protected species. Potential decommissioning effects are considered to be similar to those identified for the construction phase. The future species community and habitat composition and condition at the time of decommissioning is unknown and cannot be reasonably assumed with any certainty. Decommissioning effects are therefore not considered separately for each ecological feature.

6.10.63 A decommissioning plan would be produced prior to the decommissioning of the Proposed Development, in accordance with good practice guidance that is available at the time. Providing the implementation of good practice measures such as those included in the CEMP agreed prior to construction it is unlikely that any significant effects upon IEFs would occur and effects are predicted to be of no greater than **low** magnitude, **minor adverse** effect and **Not Significant** in the context of the EIA Regulations. Reinstatement of protected and notable habitats following decommissioning would increase their extent within the Site, providing beneficial effects for these habitats in a Local context.

6.11 Mitigation

6.11.1 Embedded mitigation and good practice measures are detailed in **Section 6.7**, as well as in **Appendices 2.1** and **2.2**.

Outline Biodiversity Enhancement Management Plan

6.11.2 An oBEMP is submitted as **Appendix 6.7**, which includes a variety of measures designed to mitigate and compensate for impacts on important habitat features, including blanket bog and bog pools and enhance habitats. Preliminary peatland restoration search areas totalling 143.2 ha have been identified based on survey data, satellite imagery cross referenced with GIS data, and taking consideration of logistical constraints. The oBEMP includes a commitment to control and manage some of the pressure factors which are contributing to the degradation of blanket bog habitat within the Site This includes but is not limited to bracken control, and rewetting measures, including some blocking of suitable ditches present. This would result in an overall increase in the quality of blanket bog and modified bog habitats at the Site, and reverse some of the degradation of bog habitat which is already taking place under baseline conditions, and which it should be noted may be expected to continue in the absence of the Proposed Development, potentially eventually leading to a loss of the further bog due to modification.

6.11.3 The oBEMP includes specific measures to improve the condition of degraded bog habitat within the Site, which includes 143.2 ha of restoration search areas. The size of the area required for restoration and enhancement would accord with guidance applicable at the time of any consent and would comprise the following measures:

- restoration by reprofiling of haggs and gullies, with damming of gullies on shallow slopes <7.5°;
- hand restoration of ‘micro-erosion’;
- reseeding reprofiled features; and

- creation of shallow depressions to allow bog pools to form, which would in time create new areas of M2 and M3 habitat.

6.11.4 Detailed proposals are available in the oBEMP, which also includes monitoring and suggested mitigation/ remedial measures in the event of any failure.

6.11.5 The oBEMP also details measures for riparian planting of native broad-leaved trees, this would be carried out in appropriate areas within the Site, where such planting would not compromise the integrity of underlying habitat (i.e. planting would be avoided on areas of bog and pristine heath), and which would provide enhancement in relation to native broad-leaved woodland habitat. Location of tree planting would also be sensitive to turbine locations as to not potentially create linear corridors towards turbines which bats may use for foraging and commuting.

Habitats and Vegetation

6.11.6 The CEMP would include Habitat Specific Protection Plans (HSPPs) detailing good practice measures for construction works within the most sensitive habitats (Annex I, SBL or potential GWDTE habitats). HSPPs would detail measures required to manage construction works within these sensitive habitats and include habitat restoration measures.

Bats

6.11.7 To reduce effects on foraging/commuting bats, during the operation phase of the Proposed Development, additional mitigation in the form of pitching the blades out of the wind ("feathering") to reduce rotation speeds below 2 revolutions per minute (rpm) while idling, as detailed in Joint Agencies Guidance (2021) would be implemented. The reduction in speed resulting from feathering compared with normal idling can reduce bat fatality rates by up to 50 %. Feathering would therefore be implemented using automated Supervisory Control and Data Acquisition (SCADA) data for the lifetime of the Proposed Development.

6.11.8 To establish the effectiveness of feathering a monitoring programme would be adopted, this may be in the form of bat activity surveys and/or carcass searching. The monitoring programme approach would be agreed with NatureScot and the Council in accordance with a suitably worded condition.

Fish

6.11.9 To minimise disturbance on fish during the construction of the watercourse crossing, these works should be undertaken outside of the recommended spawning, incubation and emergence times.

Monitoring

6.11.10 Monitoring would be undertaken during construction in accordance with the CEMP (see oCEMP in **Appendix 2.1**) in relation to pollution prevention measures, fish monitoring and also water quality monitoring (see details in **Section 6.7**).

6.11.11 The monitoring plan would also include details of checks of the habitat mitigation (peatland compensation) and habitat enhancement measures, and details of response and remediation measures in the event mitigation/enhancement measures are found not to be performing.

6.11.12 The monitoring plan would include details of checks for grazing pressures from deer and to monitor the effectiveness of 'feathering' which would include bat activity surveys and/or carcass searching. The monitoring programme approach would be agreed with NatureScot and the Council in accordance with a suitably worded condition.

6.12 Cumulative Effects

6.12.1 This section considers the potential effects of the Proposed Development upon important ecological features in combination with other wind farm developments in accordance with NatureScot guidance (2021). The assessment considers:

- existing wind farm developments, either operational or under construction;
- consented wind farm developments awaiting implementation (unless no activity in the last eight years since consent granted); and
- wind applications awaiting determination within the planning process and where information exists in the public domain (noting that such projects may be subject to change in design).

6.12.2 There are three existing wind farms within 10 km of the Site:

- Millennium Wind Farm - located on the southern boundary of the Site;
- Beinneun Wind Farm – located approximately 3 km south of the Site;
- Beinneun Extension Wind Farm – located approximately 3 km south of the Site; and
- Bhlaraidh Wind Farm – located approximately 8.5 km north of the Site.

6.12.3 There are two consented wind farms within 10 km of the Site:

- Tomchrasky Wind Farm – located approximately 1 km north-west of the Site; and
- Bunloinn Wind Farm – located approximately 9 km east of the Site.

6.12.4 There are two wind applications awaiting determination within 10 km of the Site:

- Beinneun 2 Wind Farm – located approximately 1.5km south west of the Site, and;
- Culachy Wind Farm – located approximately 6.6 km east of the Site.

Construction

6.12.5 Construction cumulative effects are considered for those other wind farms (that may have construction phases which coincide with that of the Proposed Development) within 5 km of the Proposed Development (Tomchrasky Wind Farm which is consented and Beinneun 2 Wind Farm which is in planning).

Bats

6.12.6 The potential for adverse cumulative effects on bats during construction are considered highly unlikely to occur in recognition of the fact that the design of the Proposed Development has been largely implemented away from watercourses (with the exception of the minor headwaters in proximity to turbine 1 and turbine 2) and woodland edges. Furthermore, no potential bat roost feature was identified within 200 m plus rotor radius of the proposed turbines.

6.12.7 From a review of the Ecology Chapter within the EIAR for Tomchrasky Wind Farm, the EIAR reports a prediction of no significant effects on bats, as a result of construction activities.

6.12.8 The Ecology Chapter and Bat Technical Appendix for Beinneun 2 Wind Farm reports that effects on roosting bats are scoped out of the assessment, as no potential maternity roosts and/or hibernation/swarming sites have been identified within 200m plus blade tip of the proposed turbine locations.

6.12.9 Disturbance to foraging and commuting bats during the construction phase is scoped in at the request of NatureScot, however, it has been assessed that there are unlikely to be significant, if any, effects of disturbance.

6.12.10 As such, with the implementation of good practice measures and design considerations of the Proposed Development and other wind farm sites cumulative effects during the construction phase on bats are considered unlikely and are scoped out of further assessment.

Habitats

6.12.11 Habitat restoration detailed above, and enhancement measures proposed under the oBEMP (see **Appendix 6.7** and **Figure 6.7)** would restore notable habitats (peatland) on-site, and result in the increase in the extent of this habitat on-site.

6.12.12 The Ecology Chapter within the EIAR for Tomchrasky Wind Farm and Beinneun 2 Wind Farm reports a prediction of no significant effects on habitats, as a result of construction activities. Additionally, the Tomchrasky Wind Farm draft Habitat Management Plan outlines measures to restore degraded bog to blanket bog condition with the potential to result in a minor beneficial effect if the areas restored are greater than the predicted area lost. Beinneun 2 Wind Farm EIAR commits to the delivery of a HMP which sets out provisions for the enhancement and restoration of habitats.

6.12.13 As such, with the implementation of mitigation, enhancement and restoration measures no potential for significant adverse cumulative construction habitat loss effects are anticipated and habitat loss is scoped out of further cumulative assessment.

Deer

6.12.14 The River Moriston acts as a barrier to movement between proposed Tomchrasky Wind Farm and the Proposed Development. The Ecology Chapter (Atmos, 2022) within the EIAR for Tomchrasky Wind Farm has not assessed potential impacts on deer. However, based on the

barrier (River Moriston) it is assessed that cumulative displacement and additional browsing pressures from deer are not anticipated as deer are not able to readily move between the two sites.

6.12.15 The Ecology Chapter within the EIAR for Beinneun 2 Wind Farm reports that construction effects are expected to be minimal due to the timing of works and short-term construction period. Any displacement that may occur is not anticipated to force deer into any areas of risk and extensive suitable habitat and commuting corridors are present locally within the Site and wider landscape.

6.12.16 As such, no potential for significant adverse cumulative effects during the construction phase on deer are anticipated and is scoped out of further cumulative assessment.

6.12.17 It is predicted that cumulative adverse effects upon all important ecological receptors during the construction phase would be **Not Significant** in the context of the EIA Regulations.

Operation

6.12.18 Cumulative operation effects are considered in relation to bats only (given this was the only ecological feature scoped into the assessment at the operational stage), and those other wind farms within 10 km of the Proposed Development.

6.12.19 Bat collision impacts have largely been minimised through the sensitive and considered design of the Proposed Development and by the implementation of standard good practice measures regarding buffer distances of turbines from bat habitat features in order to minimise the potential for impacts on commuting and foraging bats and therefore the likelihood of cumulative impacts. Further precautionary mitigation in the form of pitching the blades out of the wind ("feathering") to reduce rotation speeds below 2 rpm while idling, as detailed in Joint Agencies Guidance would be implemented. The reduction in speed resulting from feathering compared with normal idling can reduce bat fatality rates by up to 50 %.

6.12.20 No publicly available information was found for Millennium Wind Farm and Bhlaraidh Wind Farm, this is likely due to the age of the wind farms and the therefore the documentation being removed from the ECU website.

6.12.21 A review of available information of wind farms (existing, consented and awaiting determination) within 10 km of the Site has confirmed that good practice measures regarding buffer distances of turbines from suitable foraging and commuting habitats (such as woodland edge) is proposed for the Bunloinn Wind Farm, Tomchrasky Wind Farm, Beinneun 2 Wind Farm and Culachy Wind Farm. Buffer distances between bat habitat features and Beinneun Wind Farm and Beinneun Extension were not explicitly stated within the EIAR documents, however, it was assessed that bat activity was negligible within the turbine envelopes of both of these developments (Blue Energy, 2014).

6.12.22 EIAR documents for Tomchrasky Wind Farm report that during operation a significant effect on bats is predicted in the absence of mitigation. Mitigation (feathering) is proposed to reduce the potentially significant impact to bats species during operation.

6.12.23 EIAR documents for Culachy Wind Farm report that with the implementation of embedded mitigation it is considered that there are no likely significant effects on high collision risk bat species and feathering is proposed to further reduce the risk.

6.12.24 EIAR documents for Beinnuen 2 report that due to the levels of activity recorded on-site, and analysis of site-risk, the effect significance of collision risk on bat species recorded at the Site is considered Minor Adverse and Not Significant.

6.12.25 From a review of the available documents of the other wind farm sites within 10 km of the Proposed Development, no significant effects on bats were reported, alone or in-combination with other wind farms.

6.12.26 The activity levels recorded and implementation, at other wind farm sites, of standard good practice measures regarding buffer distances to minimise impacts on commuting and foraging bats and in some cases the implementation of additional mitigation, feathering, further minimises the likelihood of cumulative impacts.

6.12.27 Cumulative impacts on bats are considered to be no more a long-term, **low** magnitude of impact, resulting in a **minor** adverse effect which is considered **Not Significant** in the context of the EIA Regulations.

6.13 Ecological Enhancement Measures

6.13.1 An oBEMP for the Proposed Development has been provided as **Appendix 6.7** and **Figure 6.7** and details outline habitat enhancement principles to be implemented as part of the Proposed Development.

6.13.2 The detailed BEMP would be agreed in consultation with NatureScot and the Council and implemented as approved in accordance with a suitably worded condition. In summary, measures are to include peat restoration within the Site, together with native riparian planting, native woodland planting and bracken control.

6.13.3 Priority peatland on-site is likely to be required to be restored, to achieve a significant level of enhancement, the specific amount would accord to the NatureScot guidance applicable at the time of consent (if the Proposed Development is consented). Based on the current NatureScot guidance (2023), a further 10 % of the baseline amount of priority peatland loss would be required to be restored to achieve enhancement.

6.13.4 The Peatland Restoration Search Area is 143.2 ha, with the loss of 12.69 ha of priority peatland required to facilitate the development. Mitigation/compensation and enhancement would clearly be deliverable given the extent of land available for restoration.

6.13.5 Additionally, further significant enhancement measures i.e. woodland planting is detailed in the oBEMP.

6.13.6 Compensation, mitigation and enhancement measures, provided as part of the oBEMP, would remain in place throughout the operational phase, subject to periodic review in accordance with any emerging best practice management advice.

6.14 Residual Effects

6.14.1 No significant residual adverse effects are predicted to occur upon any IEF as a result of the construction or operation of the Proposed Development, either alone or cumulatively with other developments via 'in-combination' effects. Habitat measures to be implemented under the oBEMP, and further peatland restoration for compensation/mitigation, are expected to provide net beneficial effects associated with the Proposed Development longer term. With the adoption of the mitigation and enhancement measures it is anticipated that a permanent, **low** magnitude of impact, resulting in a **minor** beneficial effect on notable (peatland) habitats on-site are predicted, which is considered **Not Significant** in the context of the EIA Regulations.

6.15 Summary of Effects

6.15.1 A summary of significant ecological effects is provided in **Table 6.12**.

Table 6.12: Summary of Ecology Effects

IEF	Effect	Phase	Assessment Consequence	Effect Significance	Four - Point Scale[20]
Habitats and Vegetation – Dry Dwarf Shrub Heath	Habitat loss	Construction	**Low adverse** magnitude / **minor** adverse	Not significant	Negative
Habitats and Vegetation – Wet Dwarf Shrub Heath	Habitat loss	Construction	**Low adverse** magnitude / **minor** adverse	Not significant	Negative
Habitats and Vegetation – Blanket Bog	Habitat loss	Construction	**Medium** magnitude / **moderate/minor** adverse	Not significant	Negative
Habitats and Vegetation – Wet	Habitat loss	Construction	**Low** magnitude / **minor** adverse/**negligible**	Not significant	Negative

[20] As requested by the Council see **Table 6.1**, with effects considered as 'strong negative', 'negative', 'positive' or 'strong positive'. Note, it was considered appropriate to include 'neutral' as a fifth point on the scale given some effects were considered neither negative nor positive.

IEF	Effect	Phase	Assessment Consequence	Effect Significance	Four - Point Scale[20]
Modified Bog					
Notable flora species	Species loss	Construction	**Negligible** magnitude / **negligible**	Not significant	Neutral
Deer	Displacement	Construction	**Low** magnitude / **minor** adverse / **negligible**	Not significant	Negative
		Operation	**Negligible** magnitude / **negligible**	Not significant	Neutral
Bats (commuting and foraging)	Collison mortality Displacement	Construction	**Low** magnitude / **minor** adverse	Not significant	Negative
		Operation	**Low** magnitude / **minor** adverse / **negligible**	Not significant	Negative
		Operation	**Low** magnitude / **minor** adverse / **negligible**	Not significant	Negative

6.16 Information to Inform Habitats Regulations Appraisal

Screening for Likely Significant Effect

6.16.1 This section summarises information relating to the potential for likely significant effects upon ecological qualifying features of the River Moriston SAC as a result of the construction and operation of the Proposed Development.

6.16.2 River Moriston SAC abuts the Site to the north.

6.16.3 River Moriston SAC is designated for the following qualifying features:

- Atlantic salmon; and
- freshwater pearl mussel.

6.16.4 There is hydrological connectivity between the Proposed Development and the SAC via watercourses within the Site which drain towards the River Moriston SAC. No direct effects, from construction activity, on the River Moriston SAC are anticipated to occur as a result of the Proposed Development and the potential for indirect effects on the SAC have also been minimised, with all proposed infrastructure and construction corridors located approximately 150 m from the SAC.

6.16.5 However, as part of the proposed ecological enhancements improving/creating in-channel fish cover (i.e. placing boulders and/or woody debris within the watercourse) is proposed along with riparian planting on the banks of the SAC.

6.16.6 The Overarching Conservation Objectives for River Moriston SAC are:

1. ‘To ensure that the qualifying features of the River Moriston SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status’
2. ‘To ensure that the integrity of the River Moriston SAC is restored by meeting objectives 2a, 2b, 2c for each qualifying feature (and 2d for freshwater pearl mussel)’

6.16.7 Conservation Objectives for freshwater pearl mussel for River Moriston SAC are:

- ‘2a. Restore the population of freshwater pearl mussel as a viable component of the site.
- 2b. Restore the distribution of freshwater pearl mussel throughout the site.
- 2c. Restore the habitats supporting the freshwater pearl mussel within the site and availability of food.
- 2d. Maintain the distribution and viability of freshwater pearl mussel host species and their supporting habitats.’

6.16.8 Conservation Objectives for Atlantic salmon for River Moriston SAC are:

- ‘2a. Maintain the population of Atlantic salmon, including range of genetic types, as a viable component of the site.
- 2b. Maintain the distribution of Atlantic salmon throughout the site.
- 2c. Maintain the habitats supporting Atlantic salmon within the site and availability of food.’

6.16.9 The design of the Proposed Development is sensitive to watercourses; a single minor new watercourse crossing would be required to facilitate the Proposed Development; this is located between proposed turbines 6 and 7. The watercourse is assessed as being an ephemeral peaty headwater which offers negligible opportunities for fish, however, is hydrologically connected to the River Moriston. The new crossing would be designed in accordance with Scottish Government good practice and taking due regard of SEPA guidelines to enable the passage of fish and other wildlife. Additionally, the design considerations include a commitment to develop an FMMP which would be implemented in the pre-, during-, and post-construction phases, to monitor and prevent adverse effects to fish.

6.16.10 Furthermore, a minimum 50 m buffer around all mapped watercourses for Proposed Development infrastructure has been adopted. Construction activities are likely to result in a short-term increase in vehicular movements and plant activity.

6.16.11 Overall habitat loss for freshwater pearl mussel and Atlantic salmon as a result of the Proposed Development would be negligible. Particularly when considering the unsuitable nature of the watercourse, being crossed, for freshwater pearl mussel and Atlantic salmon, and loss relative to the availability of comparable habitats remaining within the Site and the extent of preferable habitats within the surrounding area.

6.16.12 Proposed in-channel and riparian ecological enhancements would seek to complement and support conservation efforts by local fisheries interest groups within the wider river catchments.

6.16.13 However, in the absence of mitigation measures indirect impacts from construction activities may adversely impact the integrity of the Site and qualifying features of the River Moriston SAC. In the event of pollutants/sediments entering tributaries of the SAC, within the Site, indirect adverse impacts may occur on Atlantic salmon and freshwater pearl mussel, downstream via injury, mortality and habitat loss.

6.16.14 Proposed ecological enhancements may adversely impact the integrity of the Site and qualifying features of the River Moriston SAC if not undertaken in line with sensitive working techniques in consultation with local fisheries interest groups. However, overall, it is anticipated that these efforts would support conservation within the River Moriston.

6.16.15 Operational activities, including maintenance, are likely to result in occasional vehicular movements during the operational phase; however, this would be limited to the access tracks and infrastructure. No disturbance to watercourses and surrounding habitats, or activities resulting in pollution, are anticipated. As such, impacts with respect to operational effects on freshwater pearl mussel and Atlantic salmon are discounted.

6.16.16 Likely significant effects from the construction and the proposed ecological enhancements of the Proposed Development cannot be ruled out for River Moriston SAC in the absence of mitigation. An Appropriate Assessment (AA) should be carried out by the relevant competent authority and information to inform the AA has been provided in this Chapter.

Information to Inform Appropriate Assessment

6.16.17 In the absence of mitigation, the potential for likely significant effects is identified for River Moriston SAC as a result of construction of the Proposed Development and introduction of ecological enhancements into the watercourse.

6.16.18 This section therefore considers the potential for adverse effects upon the integrity of the River Moriston SAC, in view of the Site's conservation objectives and on the basis of mitigation measures.

Mitigation measures

Timing of works

6.16.19 All construction and ecological enhancement work associated with watercourses should be undertaken outwith the recommended spawning, incubation and emergence times (October to May inclusive) thus minimising disturbance.

CEMP

6.16.20 A CEMP would be prepared for the Proposed Development, to be approved by the Council. The CEMP would be finalised and implemented by way of a suitably worded planning condition although an oCEMP is provided within **Appendix 2.1**.

6.16.21 The CEMP, once finalised, would include all standard measures to ensure the Proposed Development is constructed in accordance with industry good practice applicable at the time of commencement. The CEMP would also include habitat reinstatement measures following the cessation of construction works.

6.16.22 With specific reference to the protection of ecological features during the construction and operation of the Proposed Development, the CEMP and oBEMP respectively, would include all good practice construction measures, pollution prevention controls and monitoring to be implemented over the course of the construction of the Proposed Development and ecological enhancements in line with current industry and statutory guidance.

6.16.23 Good practice construction measures to be provided within the CEMP include:

- measures in relation to pollution risk, sediment management and sensitive techniques with regard to construction near watercourses; and
- installation of suitable sediment/silt traps before any works are carried out.

Consultation with local fishery interest groups and environmental clerk of works

6.16.24 The final details of ecological enhancements and associated habitat management measures to be implemented, including specific locations, extents and method statements would be subject to agreements reached with the landowners and relevant stakeholders (i.e. the Council, NatureScot, SEPA and NDSFB) and informed by detailed site investigations and input by relevant specialists.

6.16.25 Ecological enhancements would be undertaken by a specialist contractor, overseen by an EnvCoW.

Summary

6.16.26 With the adoption of the above mitigation measures any impacts on Atlantic salmon and freshwater pearl mussel as a result of the Proposed Development are predicted to be avoided or minimised to a negligible level such that there would be **no LSE** on the integrity of the River Moriston SAC.

In Combination Impacts

6.16.27 This section considers the potential effects of the Proposed Development upon the qualifying features of the River Moriston SAC in combination with other wind farm developments in accordance with NatureScot guidance (2021). The assessment considers:

- existing wind farm developments, either operational or under construction;
- consented wind farm developments awaiting implementation (unless no activity in the last eight years since consent granted); and
- wind applications awaiting determination within the planning process and where information exists in the public domain (noting that such projects may be subject to change in design).

6.16.28 There are three existing wind farms within 10 km of the Site:

- Millennium Wind Farm - located on the southern boundary of the Site;
- Beinneun Wind Farm – located approximately 3 km south of the Site;
- Beinneun Extension Wind Farm – located approximately 3 km south of the Site; and
- Bhlaraidh Wind Farm – located approximately 8.5 km north of the Site.

6.16.29 There are two consented wind farms within 10 km of the Site:

- Tomchrasky Wind Farm – located approximately 1 km north-west of the Site; and
- Bunloinn Wind Farm – located approximately 9 km east of the Site.

6.16.30 There are two wind applications awaiting determination within 10 km of the Site:

- Beinneum 2 Wind Farm – located approximately 1.5 km south west of the Site, and;
- Culachy Wind Farm – located approximately 6.6 km east of the Site.

Construction

6.16.31 Construction cumulative effects are considered for those other wind farms (that may have construction phases which coincide with that of the Proposed Development) within 5 km of the Proposed Development (only the Tomchrasky Wind Farm which is in planning).

6.16.32 In the absence of mitigation cumulative LSEs on the River Moriston SAC cannot be ruled out due to potential pollution and sedimentation incidents into the watercourse during construction. However, a review of the Ecology Chapter (Atmos, 2022) of the EIAR for Tomchrasky Wind Farm highlighted that mitigation is embedded into the design; '*avoidance of working within or near watercourses (a 50m minimum buffer is recommended*,'

6.16.33 As likely significant effects on the qualifying features of the River Moriston SAC from the Proposed Development can be avoided/minimised to a negligible level through mitigation, the application of which is also a legislative requirement, it can be concluded that there would be no measurable adverse effects from the Proposed Development which would contribute cumulatively to those associated with Tomchrasky Wind Farm which, when considered in combination, could result in adverse effects on the integrity of the River Moriston SAC.

Operation

6.16.34 Operational cumulative effects from activities, including maintenance, are likely to result in occasional vehicular movements during the operational phase; however, this would be limited to the access tracks and infrastructure. No disturbance to watercourses and surrounding habitats, or activities resulting in pollution, are anticipated. As such, impacts with respect to cumulative operational effects on freshwater pearl mussel and Atlantic salmon are discounted.

Conclusion

6.16.35 Information to inform the AA has been provided. This has concluded that with the adoption of the above mitigation measures, the Proposed Development would have **no LSEs** on site integrity of the River Moriston SAC, either on its own or in combination with other projects.

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