

CHAPTER 8: TERRESTRIAL ECOLOGY

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8. TERRESTRIAL ECOLOGY

8.1 Executive Summary

- 8.1.1 An assessment has been undertaken of the potential impacts on nature conservation interests (non-avian) of the Proposed Development.
- 8.1.2 Desk and field surveys were undertaken for identified ecological receptors including sites designated for nature conservation interest, habitats and vegetation, and protected species according to best practice methodologies.
- 8.1.3 No sites designated for nature conservation will be affected by the Proposed Development.
- 8.1.4 Habitats identified within the Study Area were those of Regional to Less than Local ecological sensitivity. Three irreplaceable habitats are present within the Study Area – blanket bog, ancient woodland and Caledonian Pinewood. Habitats considered to have high dependency on groundwater are present within the Study Area but would not be impacted by the Proposed Development. Predicted effects of the Proposed Development on Ancient Woodland and Caledonian Forests are considered to have a Moderate Adverse and Significant effect. Predicted effects on other habitats are considered Not Significant.
- 8.1.5 Signs of protected species including pine marten, otter, badger, red squirrel and bats were identified within the Study Area.
- 8.1.6 Proposals for mitigation relevant to identified ecological receptors include the development and implementation of a site-specific Construction Environmental Management Plan (CEMP), which will be used in conjunction with the Applicant's General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs). Furthermore, a suitably experienced Environmental Clerk of Works (ECoW) will be appointed to undertake pre-construction surveys for protected species and oversee construction works to minimise any potential effects on nature conservation interests.

8.2 Introduction

8.2.1 This Chapter considers the potential effects, including cumulative effects, of the Proposed Development on terrestrial ecology during construction and operation. This Chapter should be read with reference to the scheme description in **Chapter 3: Project Description**, as well as other chapters as referenced throughout. This Chapter is informed by, and should be read in conjunction with, the following Figures and Technical Appendices:

- **Figure 8.1:** Sites of Nature Conservation
- **Figure 8.2:** Phase 1 Habitats
- **Figure 8.3:** Priority and Sensitive Habitats
- **Figure 8.4:** Protected Species Records
- **Technical Appendix 8.1:** Field Survey Methodology
- **Technical Appendix 8.2:** Habitat Target Notes
- **Technical Appendix 8.3:** Protected Species Records.

8.2.2 As described in **Chapter 3: Project Description**, it is anticipated that the effects associated with the construction phase could be considered to be representative of worst-case decommissioning effects on Terrestrial Ecology. As such, a separate assessment of potential decommissioning effects is not included in this Chapter. Where likely significant effects are predicted during construction and operation, appropriate mitigation measures are proposed, and the significance of predicted residual effects are assessed.

8.2.3 This assessment has been carried out by suitably qualified ecologists with relevant accreditations (MCIEEM) of Orrin Ecology. A table presenting relevant qualifications and experience of key staff involved in the preparation of this Chapter is included in **Technical Appendix 4.1**, contained within Volume 4 of this EIA Report.

8.3 Scope of Assessment

Study Area

8.3.1 The Study Area encompasses the area over which all desk-based and field data were gathered to inform the assessment presented in this Chapter. The Study Area comprises approximately 743 hectares (ha) and incorporates temporary and permanent infrastructure, including Limits of Deviation (LOD). An Operational Corridor (OC) within woodland areas would also be required, see **Chapter 14: Forestry**. These areas are referred to in this Chapter as the Study Area, as displayed on **Figure 8.1**. The Study Area included land within 250 m of the proposed alignment and a minimum of 150 m from proposed new access tracks.

Consultation Responses

8.3.2 To inform the scope of the assessment for the Proposed Development, consultation was undertaken with statutory and non-statutory bodies. **Table 8.1** summarises the scoping and consultation responses relevant to the terrestrial ecology assessment and provides information on where and/or how points raised have been addressed in this assessment.

8.3.3 Further details on consultation and scoping responses can be found in **Chapter 5: Scoping and Consultation**, and associated appendices.

Table 8.1: Consultation Responses

Consultee	Consultation Type	Response	Action
NatureScot	Pre-Application, December 2021	Garry Falls SSSI is on the edge of the preferred route option and is protected for its rich bryophyte assemblage and mixed ash woodland. We recommend that the route selection process aims to avoid direct or indirect impacts to this site.	Routeing of the alignment has avoided Garry Falls SSSI. As such, direct and indirect impacts to this site are considered unlikely, as discussed in Table 8.5 and Section 8.8.4.
		We advise that survey and assessment is used to inform the route selection process so that it avoids, where possible, sensitive Annex 1 habitats. Where this is not possible, suitable restoration and/or compensation measures should be proposed.	The routeing and alignment phase considered sensitive Annex I habitats and sought to avoid them wherever possible. Annex I habitats affected by the Proposed Development are identified in Section 8.6, with appropriate mitigation to limit the effect on these habitats described in Sections 8.7 and 8.9. The Applicant is committed to a Site-specific Restoration Plan, which would set out the standards and procedures to be employed to minimise impacts to habitats and vegetation. An outline Site Restoration Plan is included in Technical Appendix 3.4 .
NatureScot	Route and Alignment Phase Consultation, May 2022	Comments as per previous advice (December 2021).	As per previous response.
NatureScot	Scoping Response, March 2023	<i>Garry Falls SSSI</i> We would expect the EIAR to demonstrate that there will be no direct or indirect impacts to the SSSI and include details of any mitigations that may be required. We recommend this includes demarcation of the SSSI boundary so as to avoid the risk of accidental vehicle access or storage of materials during the construction phase.	Routeing of the alignment has avoided Garry Falls SSSI as such direct and indirect impacts to this site are considered unlikely, as discussed in Table 8.5 and Section 8.8.4 The site boundary will be demarcated on the ground as described in Section 8.9.5. The ECoW will ensure all site staff are aware of the boundary demarcation and sensitivity of the site through toolbox talks.

Consultee	Consultation Type	Response	Action
		<p><i>Habitats</i></p> <p>We advise that Annex 1 and UKBAP Priority Habitats are mapped to NVC level, and that surveys cover the whole of the development site plus an appropriate buffer. Target notes should be used to identify the presence of any notable plants.</p> <p>We recommend that survey results inform the design and layout process, so that the development avoids where possible, sensitive habitats such as blanket bog. Where this is not possible, suitable restoration and/or compensation measures should be proposed in line with NPF4 requirements. We recommend the need for new access tracks is minimised as far as possible and that where these are required the lowest impact option is selected where possible.</p> <p>Assessment should consider extent of habitat loss and damage, both direct and indirect, and we advise that the EIAR includes details of reinstatement and habitat restoration measures (including those associated with the removal of the existing lines) within a Peatland Management Plan and Habitat Management Plan.</p>	<p>Field surveys have been undertaken as described in Section 8.5 of this chapter and Technical Appendix 8.1, including NVC survey to identify potential GWDTE habitats. Habitats are mapped according to Phase 1 habitat classification, as displayed on Figure 8.2 a – f, alongside habitat target notes.</p> <p>Sensitive habitats including Annex 1, UKBAP Priority and GWDTE habitats have been avoided as far as possible by the Proposed Development (including associated infrastructure as described in Chapter 3).</p> <p>The Applicant is committed to a Site-specific Restoration Plan, which would set out the standards and procedures to be employed to minimise impacts to habitats and vegetation. An outline Site Restoration Plan is included in Technical Appendix 3.4.</p> <p>A Peatland Management Plan is included in Technical Appendix 10.1.</p>
		<p><i>Protected Species</i></p> <p>We recommend that surveys for all protected species follow the methods published on our website, which includes detailed advice on survey methods (including timing of surveys, survey area and shelf-life). If protected species could be affected mitigation details / Species Protection Plans should also be included in the EIAR.</p>	<p>Field surveys for protected species have been undertaken as described in Section 8.5 of this chapter and Technical Appendix 8.1, in line with current guidance. Species Protection Plans are included in Technical Appendix 3.2.</p>

Consultee	Consultation Type	Response	Action
SEPA	Pre-Application, December 2021	An NVC survey should be carried out of the sites and within 250 m from any proposed infrastructure. The development should avoid direct impacts on any rare groundwater dependent habitats and protect their water supply. If relevant the mitigations measures required to protect surrounding GWDTE habitats from the impacts of the development (such as drying out) should be outlined.	Field surveys have been undertaken as described in Section 8.5 of this chapter, including NVC survey to identify potential GWDTE habitats. GWDTE habitats identified are described in Section 8.6, with appropriate mitigation to limit the effect on these sensitive habitats described in Sections 8.7 and 8.9.
SEPA	Scoping Response, March 2023	We are generally content with the approach to be taken to the scope and level of detail proposed in the EIA Report.	Noted.
		<p><i>GWDTE</i></p> <p>The following information must be included in the submission:</p> <ul style="list-style-type: none"> • A map demonstrating that all GWDTE are out with a 100m radius of all excavations shallower than 1 m and out with 250 m of all excavations deeper than 1 m and proposed groundwater abstractions; and • If the minimum buffers above cannot be achieved, a detailed sit specific qualitative and / or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all GWDTE affected. <p>Please refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial</p>	Sensitive habitat mapping including identification of locations of GWDTE habitats of high sensitivity are shown in Figure 8.3 . The Proposed Development has sought to avoid all areas of high sensitivity GWDTE. Measures specific to the avoidance of impacts to GWDTE habitats are included in Section 8.9.

Consultee	Consultation Type	Response	Action
		Ecosystems for further advice and the minimum information we require to be submitted.	
		<p><i>Schedule of Mitigation</i></p> <p>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 (for example, limiting the maximum area to be stripped of soils at any one time) and regulatory requirements. They should set out the daily responsibilities of ECoWs, how site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer. Please refer to Guidance for Pollution Prevention (GPPs).</p>	A Schedule of Mitigation is included in Technical Appendix 3.3 .

Issues Scoped Out of Assessment

8.3.4 With implementation of best practice construction methodology and adoption of the Applicant's GEMPs and SPPs (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), the following surveys have been scoped out of this assessment as significant effects on these ecological receptors are not anticipated:

- Freshwater habitat surveys – the Proposed Development would oversail (as an OHL) several watercourses within the Study Area. As part of the design process, towers have been typically positioned at least 20 m from watercourses and water features such as lochs and ponds. Construction and felling will be undertaken in accordance with best practice measures and pollution prevention guidelines, therefore significant impacts to fish and their habitats are not anticipated. **See Chapter 10: Geology, Soils and Water** for further details on watercourse protection;
- Species specific surveys and associated assessments for great crested newt (GCN) are not considered to be required due to the habitat within the Study Area being largely unsuitable and the design mitigation in place to typically buffer all water features such as ponds by a minimum of 20 m; and
- Existing access tracks identified for upgrading works are in relatively good condition with only minor carriageway or verge widening works required and therefore do not form part of the Study Area for this assessment.

8.4 Legislation, Policy and Guidance

8.4.1 This assessment has been undertaken with reference to relevant legislation, policy and guidance, notably the following:

Legislation Context

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (i.e. the Habitats Directive) (European Commission, 1992);
- The Wildlife and Countryside Act 1981 (as amended) (WCA) (UK Government, 1981);
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland) (i.e. the Habitats Regulations) (UK Government, 1994);
- The Wildlife and Natural Environment (Scotland) Act 2011 (as amended) (WANE Act) (Scottish Government, 2011);
- Nature Conservation (Scotland) Act 2004 (as amended) (NCA) (Scottish Government, 2004); and
- The Protection of Badgers Act 1992 (as amended) (UK Government, 1992).

Policy Context

- National Planning Framework 4 (NPF4) (Scottish Government, 2023); and
- Highland-wide Local Development Plan (HwLDP) 2012.

Technical Guidance and Information

- Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition) (Bat Conservation Trust, 2016);
- Guidance for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018);
- Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (Scottish Environmental Protection Agency, 2017);
- Highland Nature (2021) Biodiversity Action Plan 2021 – 2026; and
- The Scottish Biodiversity List (SBL) (Scottish Government, 2013).

8.5 Methodology

Desk Study

8.5.1 A review of existing data was undertaken as a desk-based exercise to identify habitats and species of conservation interest in the wider area. The following freely downloadable datasets were searched for information on statutory and non-statutory designated sites, the presence of native woodland habitat and the distribution of species of conservation concern:

- Joint Nature Conservation Committee (JNCC) website (<https://www.jncc.gov.uk/>);
- NatureScot Site Link website (<https://sitelink.nature.scot/home/>);
- NatureScot Natural Spaces (<https://gateway.nature.scot/natural-spaces/datasets/>);
- Habitat Map of Scotland (HabMos) website (<https://www.nature.scot/landscapes-and-habitats/>);
- Native Woodland Survey of Scotland data (<https://forestry.gov.scot/support-regulations/scottish-forestry-map-viewer/>);
- Carbon and Peatland Map, available online (https://map.environment.gov.scot/soil_maps/);
- Open source data from the National Biodiversity Network (<https://nbnatlas.org>) (NBN Atlas); and
- Large-scale 1:10,000 Ordnance Survey (OS) maps in conjunction with colour 1:25,000 OS map (to determine the presence of ponds and other features of nature conservation interest).

8.5.2 Further information on the nature conservation features that have the potential to be affected by the Proposed Development was obtained through searches of internet sources (e.g. UK Biodiversity Action Plans (UKBAP), Scottish Biodiversity List (SBL), Local Biodiversity action Plans (LBAP)) and the relevant published literature

(i.e. relevant guidance documents and scientific papers). The Proposed Development falls within the area covered by the Highland Nature Biodiversity Action Plan¹.

8.5.3 Existing survey data available from following nearby developments were also reviewed:

- Skye Reinforcement Project (ECU Planning Ref: ECU000043395);
- Coire Glas Pumped Storage Scheme (ECU Planning Refs: ECU0003164 and ECU00000577); and
- Bhlaraidh Extension Wind Farm Grid Connection (ECU Planning Ref: ECU00004639).

Field Survey

8.5.4 Field survey methodology is detailed in **Technical Appendix 8.1** and is summarised below.

8.5.5 Field surveys were carried out at various stages of the route selection and alignment phases of the project in August 2021 and between June and August 2022, with additional visits made in February 2023 upon further refinement of the Proposed Development. Habitat surveys were undertaken following the NVC scheme² using standard methods³ and incorporating Phase 1 Habitat Survey Characterisation. Habitats were mapped using the Phase 1 Habitat Classification (JNCC, 2010)⁴, with habitat boundaries and classification being recorded onto 1:10,000 scale Ordnance Survey maps.

8.5.6 Any wetland habitats were evaluated in terms of their potential to be groundwater dependent terrestrial ecosystems (GWDTES). This was done based on the hydrogeological setting of each habitat community identified, with reference to SEPA guidance^{5,6} modified from the UK Technical Advisory Group (UTAG) list of National Vegetation Classification (NVC) communities and associated groundwater dependency scores. Non-native and / or invasive terrestrial plants and algae were also recorded.

8.5.7 Protected species surveys were also undertaken in August 2021 and between June and August 2022, with additional visits made in February 2023. Surveys involved searching for signs of species including otter (*Lutra lutra*), pine marten (*Martes martes*), features that could support roosting bats, badger (*Meles meles*), water vole (*Arvicola amphibius*), beaver (*Castor fiber*) and red squirrel (*Sciurus vulgaris*), in accordance with best practice methodologies. Any incidental records or signs of other protected species (e.g. Scottish wildcat), were recorded in accordance with best practice. Surveys for protected species were carried out within a 500 m survey corridor around the centre line of the proposed OHL alignment (i.e. 250 m survey corridor from the centreline) where suitable habitat was present, following the methodologies prescribed in **Technical Appendix 8.1**.

Assessment of Effects

8.5.8 This assessment has been undertaken in accordance with the current guidance detailed by the CIEEM⁷.

8.5.9 The assessment of the significance of predicted impacts on ecological receptors is based on the 'sensitivity' of a receptor and the nature and magnitude of the effect that the Proposed Development will have on it. Effects on biodiversity may be direct (e.g. the loss of species or habitats), or indirect (e.g. effects due to noise, dust, or disturbance) on receptors located within or outside the Study Area.

¹ Highland Nature Biodiversity Action Plan 2021 – 2026. Available at: <https://www.highlandenvironmentforum.info/>

² Rodwell, J.S. (Ed) et al. (1991 – 2000) British Plant Communities (5 Volumes). Cambridge University Press, Cambridge

³ Rodwell, J.S. (2006) NVC Users' Handbook. ISBN 978 1 86107 574 1.

⁴ Joint Nature Conservancy Council (2010) Handbook for Phase 1 Habitat Survey – a technique for environmental audit. JNCC, Peterborough

⁵ SEPA (2017) Land Use Planning System Guidance Note 4 – Planning guidance on on-shore windfarm developments

⁶ SEPA (2017) Land Use Planning System Guidance Note 31 – Guidance on Assessing the impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.

⁷ CIEEM (2018, updated September 2019). Guidelines for ecological impact assessment in the United Kingdom. Winchester. Chartered Institute of Ecology and Environmental Management

Sensitivity / Importance of Receptors

- 8.5.10 A key consideration in assessing the effects of any development on flora is to define the areas of habitat and the species that need to be considered. This requires the identification of a potential zone of influence, which is defined as those areas and resources that may be affected by biophysical changes caused by project activities, however remote from a site.
- 8.5.11 In identifying these receptors, it is important to recognise that a development can affect flora and fauna directly (e.g. the land-take required) and indirectly, by affecting land beyond the development site (e.g. through noise generation or hydrological impacts). The approach that has been undertaken for this assessment is to identify 'sensitive ecological receptors' (species and habitats that are both valued and could be affected by the Proposed Development) and separately, to consider legally protected species. The factors influencing the categorisation of how a receptor is valued is explained in more detail below, with examples provided in Table 8.2 below.
- 8.5.12 It is impractical for an assessment of the effects of a development to consider every species and habitat that may be affected; instead it should focus on valued ecological receptors. CIEEM guidelines⁸ state that detailed assessment is not required for ecological features that are "sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".
- 8.5.13 The sensitivity of species populations and habitats is assessed with reference to:
- their importance in terms of 'biodiversity conservation' value (which relates to the need to conserve representative areas of different habitats and the genetic diversity of species populations);
 - any social benefits that species and habitats deliver (e.g. relating to enjoyment of flora and fauna by the public); and
 - any economic benefits that they provide.
- 8.5.14 Both species' populations and habitats have been valued using the following scale: Very High, High, Medium, Low, Very Low and Negligible.
- 8.5.15 The approach taken in this assessment is that a species population that is considered to be of Medium or greater importance in biodiversity conservation terms is considered to be a sensitive receptor. If a species population is considered to be of Low or Very Low value, the Proposed Development will not have a significant effect on the receptor in question. Exceptions are if the species population has been identified as having high social or economic value or if the species is legally protected. A similar approach is adopted for habitats. In addition, the role that these ecological features play in the wider ecosystem is also considered when attributing value, for example the Eurasian beaver (*Castor fiber*) plays an important role in modifying the environment around them, resulting in increased habitat for other wetland species and reduced flooding risk.
- 8.5.16 Ecological features have been valued using the scale set out in **Table 8.2** below, with examples provided of criteria used when defining the level of value.

Table 8.2: Scale of Value

Value of Receptor	Examples
International (Very High)	<p>An internationally important site e.g. Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar (or a site proposed for, or considered worthy of such a designation).</p> <p>A regularly occurring substantial population of an internationally important species (listed on Annex IV of the Habitats Directive).</p>
National (High)	<p>A nationally designated site e.g. Site of Special Scientific Interest (SSSI), or a site proposed for, or considered worthy of, such designation.</p> <p>A viable area of a habitat type listed in Annex 1 of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of a larger whole.</p> <p>A regularly occurring substantial population of a nationally important species, e.g. listed on Schedules 5 & 8 of the 1981 Wildlife and Countryside Act.</p>
Regional (Medium)	<p>Regional areas of internationally or nationally important habitats which are degraded but are considered readily restored.</p> <p>A regularly occurring, locally significant population of a species listed as being nationally scarce.</p> <p>A regional-scale important population or area of a species or habitat listed on the SBL or local BAP e.g. areas of woodland included on the AWI of semi-natural origin.</p>
Local (Low)	<p>Viable areas of priority habitat identified in the LBAP or smaller areas of such habitat which are essential to maintain the viability of a larger habitat as a whole.</p> <p>Non-statutory designated areas e.g. Local Nature Reserve (LNR), Environmentally Sensitive Area (ESA), Scottish Wildlife Trust (SWT) reserve or areas of woodland listed on the Ancient Woodland Inventory (AWI) as being of plantation origin.</p> <p>A regularly occurring, substantial population of a nationally scarce species, including species listed on the UK and Local BAPs.</p> <p>Areas of nationally important habitats which are degraded and have little or no potential for restoration.</p> <p>Areas of GWDTE habitats such as flushes (such as M6 and M23), which are uncommon within the local area.</p> <p>A good example of a common or widespread habitat in the local area, e.g. those listed as broad habitats on the LBAP.</p> <p>Species of national or local importance, but which are only present very infrequently or in very low numbers within the subject area.</p>
Less than Local (Very Low)	<p>Areas of habitat which have value to the local environment, or populations of regularly occurring common species of local conservation interest.</p> <p>Areas of GWDTE habitats which are common within the local area, such as MG10 rush pasture.</p> <p>Local areas of heavily modified or managed vegetation of low species diversity or low value as habitat to species of nature conservation interest.</p> <p>Common and widespread species.</p> <p>Areas of limited ecological value, which are not representative of semi-natural habitat and do not support wildlife of conservation interest.</p>

Magnitude of Effect

8.5.17 Effects can be permanent or temporary; direct or indirect; adverse or beneficial and can be cumulative. Effects can vary according to scales of size, extent, duration, timing and frequency of impacts. These factors are brought together to assess the magnitude of the effect on the 'conservation status' of the particular valued receptors, and on the 'integrity' of the habitats that support them:

- integrity is the coherence of the ecological structure and functions of a site or habitat that enables it to sustain its plant and animal communities and populations; and
- conservation status is the ability of a habitat, a plant or animal community or population to maintain its distribution and / or extent / size.

8.5.18 Conservation status is therefore largely determined by the extent to which integrity is maintained. It follows that habitats may or may not be valued ecological receptors in their own right. Wherever possible, the magnitude of the effect is quantified. Professional judgement is then used to assign the effects on the receptors to one of four classes of magnitude, as defined in **Table 8.3** below.

Table 8.3: Magnitude of Effect

Magnitude	Definition
High	A permanent or long-term effect on the integrity of a site or conservation status of a habitat, species assemblage / community, population or group. If adverse, this is likely to threaten its sustainability; if beneficial, this is likely to enhance its conservation status.
Medium	A permanent or long-term effect on the integrity of a site or conservation status of a habitat, species assemblage / community, population or group. If adverse, this is unlikely to threaten its sustainability; if beneficial; this is likely to be sustainable but is unlikely to enhance its conservation status.
Low	A short-term but reversible effect on the integrity of a site or conservation status of a habitat, species assemblage / community, population or group that is within the range of variation normally experienced between years.
Negligible	A short-term but reversible effect on the integrity of a site or conservation status of a habitat, species assemblage / community population or group that is within the normal range of annual variation.

Significance of Effect

8.5.19 The significance of an effect is determined through a standard method of assessment based on professional judgement and available evidence, considering the sensitivity (nature conservation and conservation status) of the ecological receptor and the characterisation of the impact, in a reasoned way.

8.5.20 Significant effects include those which result from 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).

8.5.21 **Table 8.4** below details the significance criteria that have been used in assessing the effects of the Proposed Development. Major and Moderate effects are considered significant in the context of the EIA Regulations.

Table 8.4: Magnitude of Effect

Significance of Effects	Definition
Major	Significant effect, as the impact is likely to result in a long term significant negative effect on the conservation status of the feature.
Moderate	Significant effect, as the impact is likely to result in a medium term or partially significant negative effect on the conservation status of the feature.
Minor	The impact is likely to have a negative effect on the feature at an insignificant level by virtue of its limited duration and/or extent, but there will probably be no effect on its conservation status. The level of effect would be Minor and Not Significant.
Negligible	No material effect. The effect is assessed to be Not Significant.

Limitations to the Assessment

- 8.5.22 Habitat surveys were conducted in between June and August 2022, within the optimal time of year (i.e. between the months of April to September) however it is recognised that some early flowering species may not have been apparent at the time of survey. Additional surveys undertaken in February 2023 following further refinement of the project design were undertaken out with the optimal survey window, however vegetation and habitat type could still be readily recognised and attributed to a NVC community and therefore the timing of the surveys was not considered to be a notable limitation.
- 8.5.23 Due to the proximity of the existing OHL to the Proposed Development, and the survey buffers used in habitat and protected species surveys, 64 % of the existing 132 kV steel lattice Fort Augustus to Fort William OHL due to be dismantled (i.e. to the north of the proposed Loch Lundie Substation) is within the Study Area. In areas where the existing OHL to be dismantled is not covered by the surveys undertaken, it can be inferred from the proximity of nearby habitats, aerial imagery and other sources of information (e.g. nearby projects such as the Skye Reinforcement Project) that the habitats are generally similar to those reported here and are likely to be of similar composition. As described in **Chapter 3: Project Description**, no new infrastructure is required for the dismantling and removal of the existing OHL, and so potential impacts on habitats and protected species are much reduced. Consequently, whilst there may be some data gaps around the existing OHL to be dismantled, reasonable inferences can be made and considering the lesser potential impact of dismantling, this data gap is considered only a minor limitation.
- 8.5.24 The majority of new access tracks fall within the Study Area. However, due to the revision of access tracks during the design process, there are some sections of new access track that are located out with the full 250 m buffer distance for GWDTE habitats and protected species. All new access tracks have been surveyed to a minimum buffer of 150 m. Whilst it is possible that hydrologically sensitive GWDTE habitat and / or protected species shelters might be found out with the surveyed 150 m buffer of new access tracks, the adoption of the Applicant's SPPs and GEMPs (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) is considered to reduce or eliminate any potential impacts to such features not previously identified during the course of the surveys and this data gap is considered only a minor limitation.
- 8.5.25 Bat habitat assessment was carried out, but the species, usage and population status of any bat using potential roost features (PRFs) is not known. If tree felling is required within 30 m of a location identified as having PRFs, a thorough search of PRFs should be undertaken by a licensed bat worker prior to felling as part of the pre-construction surveys.

8.6 Baseline Conditions

Existing Baseline

Statutory Designated Sites

- 8.6.1 Potential effects of the Proposed Development on internationally and nationally designated sites are considered for all sites that fall within 5 km of the Proposed Development. Three Sites of Special Scientific Interest (SSSI) designated for their biological features are identified within 5 km of the Proposed Development. A summary of their citations is provided in **Table 8.5** and their locations are displayed in **Figure 8.1a: Sites of Nature Conservation – Statutory Designations**.

Table 8.5: Statutory Designated Sites

Designation Type	Name	Distance to nearest part of Proposed Development	Comments

SSSI	Garry Falls	0 km	<p>Garry Falls SSSI lies where the river Garry emerges from Loch Garry. The site encompasses upland mixed ash woodland and supports a rich assemblage of bryophyte interest. Woodland features are associated with cliffs and clock scree slopes and comprise native broadleaved species with a rich understory of bryophytes associated with deadwood. The bryophyte assemblage is also considered of significance, including two nationally scarce species <i>Ulota calvescens</i> and <i>Cephalozia catenulate</i>.</p> <p>The SSSI falls within the Study Area, but is 30 m from the edge of the OHL LOD, 85 m from any felling operations and 190 m from the nearest proposed tower location.</p> <p>The Proposed Development lies partly within the Allt Ruighe Bhlair catchment that discharges to the River Garry downstream of Loch Garry, as such is not hydrologically connected to the Garry Falls SSSI.</p>
SPA / SSSI	West Inverness-shire Lochs	0.2 km	<p>Loch Garry and Loch Lundie are part of the West Inverness-shire Lochs SPA and SSSI, comprising eight freshwater upland lochs, designated for supporting internationally important numbers of breeding Annex I bird species.</p> <p>This designated site is discussed in further detail in Chapter 9: Ornithology and is not considered further in this chapter.</p>
SSSI	South Laggan Fen	4 km	<p>Located along the southeast shore of Loch Oich at Laggan, South Laggan Fen SSSI is one of a very small number of lowland fens found within Lochaber. Described as located on free draining soils and glacial debris with small areas of peat, the highwater table and seasonal patterns of flooding ensure that most of the site supports wetland plant species.</p> <p>Given the site is sufficiently remote from the Proposed Development regarding water, soils and geology so as not to be at risk from the Proposed Development. It is therefore not considered further in this assessment.</p>

Non-Statutory Designated Sites

- 8.6.2 There are no known non-statutory designated such as LNRs or LNCS sites within 5 km of the Proposed Development.
- 8.6.3 Areas of semi-natural woodland included on the Ancient Woodland Inventory (AWI) within the Study Area are displayed in **Figure 8.1b: Sites of Nature Conservation – Non-Statutory Designations**. Within the Study Area there are several areas listed as Category 1a and 2a (of semi-natural origin) on the AWI within Inchnacardoch Forest, Glengarry Forest and smaller patches in Munerigie Wood and south of Inchnacardoch Forest. These woodlands include areas planted with non-native species, referred to as Plantations on Ancient Woodland Sites (PAWS).

- 8.6.4 Within Glengarry Forest, there are areas of woodland included in the Caledonian Pinewood Inventory (CPI), which includes Caledonian Pinewood areas, Caledonian Pinewood Buffer Zones and Caledonian Pinewood Regeneration Zones, as shown in **Figure 8.1b: Sites of Nature Conservation – Non-Statutory Designations**. The woodland areas included in the CPI is being managed by FLS to remove non-native species and encourage regeneration.
- 8.6.5 Within the Study Area there are areas considered to be of Class 2 peatland (vegetation cover dominated by priority peatland habitat) and a couple of small patches adjacent to Drynachan Wood of Class 1 peatland (all vegetation cover is priority peatland habitat) as indicated on the NatureScot Carbon and Peatland Map⁸. Detailed peat depth surveys are presented and discussed in **Chapter 10: Geology, Soils and Water**.

Habitats and Vegetation

- 8.6.6 The Study Area generally comprises a mosaic of woodland and open upland ground. Woodland habitats include large areas of non-native conifer plantation with several smaller fragments of semi-natural conifer woodland with Scots pine (*Pinus sylvestris*). Along track sides and riparian corridors, including the River Garry and Invervigar Burn, semi-natural mixed and broadleaved woodland is also present. Open upland ground is dominated by heath and mire communities with agricultural pasture systems being found very rarely within the Study Area.
- 8.6.7 **Figure 8.2a – f** displays the vegetation according to Phase 1 Habitat types within the Study Area along with habitat target notes. Priority and sensitive habitats are displayed in **Figure 8.3a – d**. A description of habitats, vegetation communities and associated notes on location and condition are included below. Target note locations and photographs are detailed in **Technical Appendix 8.2**.
- 8.6.8 A total of 743 ha of habitats were mapped within the Study Area. Habitat types recorded are summarised in **Table 8.6** below.

⁸ SNH (2016) Carbon and Peatland Map. Available online: https://map.environment.gov.scot/soil_maps/

Table 8.6: Habitats within the Study Area

Phase 1 Habitat Code	Phase 1 Habitat	Corresponding NVC Habitats	Annex I Habitat	SBL / LBAP Priority Habitat	GWDTE Status	Area (Ha)	% of Study Area	Value of Receptor
A1.1.1	Broadleaved woodland – semi-natural	W4 <i>Betula pubescens</i> – <i>Molinia caerulea</i> W11 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Oxalis acetosella</i> woodland W17 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland		Wet woodland Upland birchwood	W4 High W11, W17 Low	40.77	5	Regional
A1.1.2	Broadleaved woodland – plantation	None	n/a	n/a	Low	8.33	1	Local
A1.2.1	Coniferous woodland – semi-natural	W18 <i>Pinus sylvestris</i> – <i>Hylocomium splendens</i> woodland	Caledonian Forests	Native pinewood	Low	15.18	2	Regional
A1.2.2	Coniferous woodland – plantation	None	n/a	n/a	Low	294.94	40	Less than local
A1.3.1	Mixed woodland – semi-natural	W17 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland	n/a	Lowland mixed deciduous woodland	Low	20.88	3	Local
A1.3.2	Mixed woodland – plantation	W17 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland	n/a	Lowland mixed deciduous woodland	Low	0.79	<1	Local
A2.1	Scrub – dense/continuous	W23 <i>Ulex europaeus</i> – <i>Rubus fruticosus</i> scrub	n/a		Low	2.94	<1	Less than Local
A2.1/A3.3	Scrub – scattered trees - mixed	W24 <i>Rubus fruticosus</i> – <i>Holcus lanatus</i> underscrub	n/a		Low	4.05	<1	
A4.2	Recently felled woodland	None	n/a	n/a	Low	20.94	3	

Phase 1 Habitat Code	Phase 1 Habitat	Corresponding NVC Habitats	Annex I Habitat	SBL / LBAP Priority Habitat	GWDTE Status	Area (Ha)	% of Study Area	Value of Receptor
A4.2/A2.2	Recently felled woodland – scattered scrub					8.14	1	Less than local
B1.1	Acid grassland – unimproved	U4 <i>Festuca ovina</i> – <i>Agrostis capillaris</i> – <i>Galium saxatile</i> grassland	n/a	n/a	Low	0.21	<1	Less than local
B1.2	Acid grassland – semi-improved					3.63	<1	
B1.2/A3.1	Acid grassland – semi-improved / scattered trees - broadleaved					0.11	<1	
B4	Improved grassland	MG6 <i>Lolium perenne</i> – <i>Cynosurus cristatus</i> grassland	n/a	n/a	Low	0.38	<1	Less than local
B5	Marsh/marshy grassland	MG9 <i>Holcus lanatus</i> – <i>Deschampsia cespitosa</i> grassland U6 <i>Juncus squarrosus</i> – <i>Festuca ovina</i> grassland	n/a	Lowland wet grasslands	Moderate	2.10	<1	Local
B5/A2.2	Marsh/marshy grassland / scattered scrub					3.62	<1	
B5/A3.1	Marsh/marshy grassland / scattered trees - broadleaved					1.10	<1	
C1.1	Bracken – continuous	U20 <i>Pteridium aquilinum</i> – <i>Galium saxatile</i> community	n/a	n/a	Low	19.55	3	Less than local
C1.1/A3.1	Bracken / scattered trees-broadleaved		n/a	n/a		3.73	<1	Less than local
C1.2/A2.2	Bracken / scattered scrub		n/a	n/a		3.57	<1	Less than local
C1.2/A3.3	Bracken / dry heath mosaic – scattered trees - mixed		n/a	n/a		6.05	<1	Less than local
D1.1	Dry dwarf shrub heath	H10 <i>Calluna vulgaris</i> – <i>Erica cinerea</i> heath	European Dry Heaths	Upland heathland	Low	3.44	<1	Regional
D1.1/A3.2	Dry dwarf shrub heath / scattered trees-coniferous					10.93	1	

Phase 1 Habitat Code	Phase 1 Habitat	Corresponding NVC Habitats	Annex I Habitat	SBL / LBAP Priority Habitat	GWDTE Status	Area (Ha)	% of Study Area	Value of Receptor
D1.1/C1.2	Dry dwarf shrub heath / scattered bracken	H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath				9.29	1	
D1.1/D2	Dry dwarf shrub heath / wet heath mosaic	H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath M15 <i>Trichophorum germanicum</i> – <i>Erica tetralix</i> wet heath	European Dry Heaths	Upland heathland	Peatland	0.32	<1	Regional
D2	Wet dwarf shrub heath	M15 <i>Trichophorum germanicum</i> – <i>Erica tetralix</i> wet heath	Northern Atlantic wet heaths with <i>Erica tetralix</i>	Upland heathland	Moderate	125.62	17	Regional
D2/A3.3	Wet heath – scattered trees					15.34	2	
D2/A2.2	Wet heath – scattered scrub					0.91	<1	
D2/E1.6.1	Wet heath / blanket bog mosaic	M15 <i>Trichophorum germanicum</i> – <i>Erica tetralix</i> wet heath M17 <i>Trichophorum germanicum</i> - <i>Eriophorum vaginatum</i> blanket mire M19 <i>Calluna vulgaris</i> - <i>Eriophorum vaginatum</i> mire	Northern Atlantic wet heaths with <i>Erica tetralix</i>	Upland heathland	Moderate	5.03	<1	
D2/E1.7	Wet heath / wet modified bog mosaic	M15 <i>Trichophorum germanicum</i> – <i>Erica tetralix</i> wet heath M25 <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire	Northern Atlantic wet heaths with <i>Erica tetralix</i>	Upland heathland	Moderate	1.27	<1	
D5	Dry dwarf shrub heath / acid grassland mosaic	H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath U4 <i>Festuca ovina</i> – <i>Agrostis capillaris</i> – <i>Galium saxatile</i> grassland U2 <i>Deschampsia flexuosa</i> grassland	European Dry Heaths	Upland heathland	Low	1.16	<1	Local
E1.6.1	Blanket bog	M17 <i>Trichophorum germanicum</i> - <i>Eriophorum vaginatum</i> blanket mire	Blanket bog	Blanket bog	Peatland	35.16	5	Regional

Phase 1 Habitat Code	Phase 1 Habitat	Corresponding NVC Habitats	Annex I Habitat	SBL / LBAP Priority Habitat	GWDTE Status	Area (Ha)	% of Study Area	Value of Receptor
		M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> mire						
E1.7	Wet modified bog	M19 <i>Calluna vulgaris-Eriophorum vaginatum</i> mire	Blanket bog (modified but capable of restoration)	Blanket bog	Peatland	15.64	2	Regional
E1.7/A3.2	Wet modified bog / scattered trees-coniferous	M25 <i>Molinia caerulea-Potentilla erecta</i> mire				19.87	3	Regional
E2.1	Flush/spring – acid	M6 <i>Carex echinata – Sphagnum fallax/denticulatum</i> mire	n/a	Upland flushes, fens and swamps	High	0.17	<1	Regional
G1.2	Standing water	None	n/a	Lochs and ponds	Low	0.19	<1	Local
G2.2	Running water	None	n/a	Rivers and Burns	Low	5.71	<1	Local
J3.6	Buildings and gardens	None	n/a	n/a	Low	8.39	1	Less than local
J4	Bare ground (includes tracks)	None	n/a	n/a	Low	23.77	3	Less than local
Total						743.22		

Woodland and Scrub

- 8.6.9 Woodland habitat is widespread within the Study Area. Coniferous, broadleaved and mixed woodlands are all present, with both semi-natural and plantation origin stands found. Woodland habitats (including recently felled) account for 55 % of habitat surveyed, with several other habitats also regularly occurring with scattered broadleaved, conifer or mixed species trees throughout them. Semi-natural broadleaved woodland is found in several places throughout the Study Area including along the banks of the River Garry, Aldernaig Burn, surrounding small lodges north of Faichem, the southern edge of Inchnacardoch Forest and around Torr Dhuin. The majority of these semi-natural broadleaved woodlands are dominated by Downy birch (*Betula pubescens*), but there are some large mature veteran trees along the banks of the River Garry including oak, beech with scattered Rowan (*Sorbus aucuparia*) and Hazel (*Corylus avellana*). Semi-natural woodland stands tended to be typical of W17 *Quercus petraea*-*Betula pubescens*-*Dicranum majus* upland birchwood (lacking the oak constituent) with a ground flora usually dominated by bracken, but occasionally was heathy. W4 *Betula pubescens*-*Molinia caerulea* wet woodland was found in two locations within the Study Area, close to the proposed Coire Glas Switching Station location and close to the public FLS car park at Auchterawe. This is a habitat considered likely to have high dependency on groundwater. Other semi-natural woodland habitats within the Study Area were W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* woodland, again lacking the oak constituent. Semi-natural woodland along the banks of the River Garry is characteristic of 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles Annex I habitat.
- 8.6.10 Large coniferous woodland plantations are found at Glengarry Forest, Munerigie Wood, Drynachan Wood and Inchnacardoch Forest, typically dominated by non-native conifer species. Within areas of Glengarry Forest there are areas considered semi-natural conifer woodland, noted on the NWSS as native pinewood, which are areas managed by FLS to encourage Caledonian Pinewood regeneration. Within the Study Area in Glengarry Forest there are small fragments with large veteran Scots pine (*Pinus sylvestris*), known as 'Granny Pines', likely to be relict, indigenous pine forest patches, which have been underplanted with additional Scot's pine. These areas are considered 91C0 Caledonian forest Annex I Habitat, with many of the fragments also being included on the AWI. These areas are generally characteristic of W18 *Pinus sylvestris*-*Hylocomium splendens* pinewood communities, with a heathy ground flora. Sub-community W18d *Sphagnum capillifolium*/*quinquefarium*-*Erica tetralix* was found in wetter stands of Scot's pine over an understorey of Cross-leaved heath (*Erica tetralix*) and occasionally Purple-moor grass (*Molinia caerulea*), although some stands do not fit closely with these sub-community descriptions due to the historical forestry operations, with plough and furrow modifying the ground flora.
- 8.6.11 The largest area of mixed woodland is found between the River Garry and the A87 where apparently self-seeded conifers and broadleaves were growing together over a ground flora mainly consisting of heather and grasses.
- 8.6.12 Scrub habitats were usually found in associated with woodland habitats, where the canopy was more open and trees were more scattered. Willow (*Salix* spp.), Gorse (*Ulex Europaeus*), Broom (*Cytisus scoparius*) and Hazel were the most commonly recorded species within scrub habitats.

Heath and Mire

- 8.6.13 In open ground between Munerigie Wood and Drynachan Wood and also between Drynachan Wood and Inchnacardoch Forest, there is a mosaic of heath and mire habitats including wet dwarf shrub heath, blanket bog, wet modified bog, dry dwarf shrub heath and acid flush. Wet dwarf shrub heath comprises nearly 20 % of the Study Area, found across large areas of open ground, where Heather (*Calluna vulgaris*) and Deergass (*Trichophorum germanicum*) are co-dominant with other species including Cross-leaved heath, Heath rush (*Juncus squarrosus*), Purple moor-grass, Cladonia lichens, Heath Plait-moss (*Hypnum jutlandicum*), Red-stemmed feather-moss (*Pleurozium schreberi*) and Red bog-moss (*Sphagnum capillifolium*). The most frequently recorded wet heath habitat was M15b *Trichophorum germanicum* – *Erica tetralix*, typical sub-

community. M15a *Trichophorum germanicum* – *Erica tetralix*, *Carex panicea* sub-community was found in small discrete flushed areas, often within larger stands of the more typical M15b community. Wet heath habitats were also found in a mosaic with mire habitats. Small, discrete runnels with standing water and Bog pondweed (*Potamogeton polygonifolius*), characteristic of M29 *Hypericum elodes* – *Potamogeton polygonifolius* soakaway were very occasional within wet heath habitats. Bog pools were also relatively uncommon in this habitat.

- 8.6.14 Blanket bog habitats were found in the open moorland habitats between Munerigie Wood and Drynachan Wood and between Drynachan Wood and Inchnacardoch Forest. Most blanket bog habitat within the Study Area was characteristic of M17 *Trichophorum germanicum* – *Eriophorum vaginatum* blanket mire, where there is a mixture of Deergrass, Hare’s-tail cottongrass (*Eriophorum vaginatum*), Common cottongrass (*E. angustifolium*), Cross-leaved heath, Purple moor-grass and Bog myrtle (*Myrica gale*) with Sphagnum mosses beneath including *Sphagnum capillifolium*, *S. papillosum*, *S. cuspidatum* and occasional *S. tenellum* and *S. compactum*. M19 *Calluna vulgaris* – *Eriophorum vaginatum* mire was not as common as M17 blanket mire but was found in smaller patches within blanket bog and wet heath habitats.
- 8.6.15 Wet modified bog was found within rides and open areas between plantation forestry coupes at Drynachan Wood and Inchnacardoch Forest and also on the open ground south of Loch Lundie. Typically, Purple moor-grass was the dominant species and was characteristic of M25a *Molinia caerulea*-*Potentilla erecta* mire *Erica tetralix* sub-community.
- 8.6.16 Acid flushes were found occasionally throughout the open moorland habitats within the Study Area and were small and very discrete, usually found in association with slow flowing streams or along ditches, with the only sizeable flush found just to the north of Drynachan Wood. Flushes were rush dominated, typically characteristic of M6 *Carex echinata* – *Sphagnum fallax/denticulatum* mire, identified by the presence of Star sedge (*Carex echinata*) with associated grasses, rushes and sedges defining individual sub-communities. The M6c *Juncus effusus* or M6d *Juncus acutiflorus* rushy sub-communities were most commonly found in areas of acid flush. The M6a *Carex echinata* sub-community was rare, occasionally found as habitats transitioned from blanket mire to wet heath.
- 8.6.17 Within open and unplanted areas of woodland within the Study Area and also on drier knolls, dry dwarf shrub heath was found, often with scattered Bracken (*Pteridium aquilinum*) or scattered trees throughout the layer of Heather. The most frequently encountered dry heath was H10 *Calluna vulgaris* – *Erica cinerea* heath, usually found in rockier and well drained locations. H12 *Calluna vulgaris* – *Vaccinium myrtillus* heath was also found within the Study Area.

Grasslands and Bracken

- 8.6.18 Grassland habitats were not common within the Study Area, comprising only 1.5 % of the total Study Area. Small patches of acid grassland, both unimproved and semi-improved, was found in an open glade within Drynachan Wood, at the southwest corner of Inchnacardoch Forest and in the field systems at Auchterawe at the edge of the Study Area. Sheep’s fescue (*Festuca ovina*) is the dominant grass within U4 acid grassland communities, with abundant Heath bedstraw (*Galium saxatile*). The main NVC communities encountered were U4a *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland, typical sub-community and U4b *Holcus lanatus* – *Trifolium repens* sub-community. Herbivore impacts on these grassland communities was observed to be high.
- 8.6.19 Marsh/marshy grassland was rare within the Study Area, only found in three locations where woodland had been felled and ground conditions facilitated the recolonisation of marshy grassland species including Tufted hair-grass (*Deschampsia flexuosa*) and Soft rush, typically characteristic of NVC community MG9 *Holcus lanatus* – *Deschampsia cespitosa* grassland.

8.6.20 Improved grassland was limited to one small patch close to the Torr Dhuin FLS car park at Auchterawe.

8.6.21 Bracken was found frequently within the Study Area, typically in small patches, comprising 4.5 % of habitats and often scattered throughout habitats such as dry dwarf shrub heath. Larger patches can be found at Glac Dubh in an unplanted area of Glen Garry Forest and around Achadh-nan-darach at the southwest corner of Inchnacardoch Forest.

Standing and Running Water

8.6.22 Several watercourses are crossed by the Proposed Development including the Allt Ruighe Bhiar, River Garry, Aldernaig Burn, Allt Dail a' Chuirn, Invervigar Burn, Allt na Graidhe and smaller unnamed tributaries. Standing water is not common, with a few small bog pools found scattered throughout the open moorland habitats, with the largest being located close to the location of the proposed Loch Lundie substation. Further details can be found in **Chapter 10: Geology, Soils and Water**.

Other Habitats

8.6.23 Buildings, gardens, tracks, roads and bare ground account for approximately 4 % of the Study Area.

Notable Plant Species

8.6.24 Whilst not specifically surveyed for during the habitat surveys, and not identified during desk-based searches, one public consultation response received during the Route and Alignment Phase of the project noted the presence of the Nationally Scarce Green shield-moss (*Buxbaumia viridis*) within Glengarry Forest. This specialist bryophyte grows on decaying wood on a variety of tree species.

Invasive Non-Native Species (INNS)

8.6.25 INNS are a threat to biodiversity and there is a legal obligation to control their spread. Records of the following INNS were identified within the Study Area during the course of surveys:

- Rhododendron (*Rhododendron ponticum*) - a small number of small shrubs were found scattered throughout heathland habitats between Munerigie Wood and Drynachan Wood, and also within forest rides within Drynachan Wood and Inchnacardoch Forest.

Protected Species

8.6.26 Surveys recorded signs of otter, pine marten, badger, red squirrel and features suitable for supporting roosting bats within the Study Area. Locations of recorded signs and are shown in **Figure 8.4a-c** with further details provided in **Technical Appendix 8.3**. The main findings from the protected species survey were:

- Pine marten signs in the form of scats were found at several locations across the Study Area, with two possible dens located within woodland habitats in Drynachan Wood and Munerigie Wood. Pine marten were not confirmed using the dens, but scat was found in the vicinity of both features, suitable for use by pine marten. The possible location in Munerigie Wood is 110 m from the nearest proposed works (LOD for and existing track to be upgraded) and 126 m from the closest edge of the OHL LOD. The possible location within Drynachan is within the proposed OC for the OHL.
- Otter signs in the form of spraint was found along the Invervigar Burn and one of its tributaries around Achadh-nan-darach. The closest location is within the proposed OC and 27 m from the nearest proposed tower location. Feeding remains on the banks of the Aldernaig Burn 216 m south of the proposed watercourse crossing point were identified as likely to have been from otter, although it is possible that the remains could be from American Mink which are known to be present in the area and are a non-native species. A possible otter couch was identified along the banks of the Allt Ruighe Bhiar, although an old spraint was found close by, there was no signs of recent use. The location is 46 m from the nearest edge of the LOD.

- Woodland habitats within the Study Area provide potential shelter for badgers although signs were limited to a single track of recent prints in woodland north of the River Garry.
- There is abundant woodland, woodland edge and water habitats to provide shelter and foraging habitat for bats within the Study Area. Two trees were identified as having potential roost features (PRFs) for bats and were considered to be of moderate potential. Both trees are out with the LOD, with the nearest being 38 m from the edge of the LOD.
- Red squirrel foraging signs were found on conifer cones in Glengarry Forest, along with two possible dreys. One drey is located within the LOD for the OHL and one of the proposed new access tracks. The second drey is located more than 90 m from the nearest edge of the OHL LOD.

Future Baseline

8.6.27 In the absence of the Proposed Development, it is likely that any identified ecological receptors would largely remain unchanged. Areas of commercial forestry within the Study Area would continue to mature until a time when they would be subject to a future felling plan, which may create temporary localised changes. Other changes over time may occur as a result of climatic change, these are difficult to predict but are likely to involve increased precipitation and risk of severe weather events as well as gradual increases in average temperatures. Some change in the vegetation assemblage is likely to occur as a result of these changes.

8.7 Embedded Mitigation / Mitigation by Design

8.7.1 In the context of this chapter, embedded mitigation includes a range of environmental measures to avoid or reduce potential effects on nature conservation and biodiversity that have been incorporated into the Proposed Development from design stage through to operation.

8.7.2 The routing and alignment selection process for the Proposed Development has taken into consideration the potential for significant effects on ecological features, and for such effects to be avoided or minimised where possible. This has continued through the EIA process, with survey data informing the siting of infrastructure and access routes to further minimise effects on habitats and species where practicable, following the mitigation hierarchy as described in CIEEM guidance.

Biodiversity Net Gain

8.7.3 Biodiversity Net Gain (BNG) is a process which leaves nature in a better state. A BNG Assessment for the Proposed Development will be undertaken in line with the Applicant's Sustainability Strategy⁹ where there are targets to positively contribute to the Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards.

Pre-Construction and Construction

8.7.4 This assessment has been carried out on the basis that all works would be carried out in accordance with industry good practice construction measures, guidance and legislation. Furthermore, the Applicant has developed a series of GEMPs and SPPs in agreement with statutory consultees, including SEPA and NatureScot. These can be found in **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**.

8.7.5 The appointed Principal Contractor would be committed to the implementation of a comprehensive and Site-specific CEMP. This document would detail how the Principal Contractor would manage the works in accordance with all commitments and mitigation detailed in the EIA, the Applicant's GEMPs and SPPs, statutory consents and authorisations, and industry good practice and guidance, including pollution prevention

⁹ Scottish and Southern Energy Networks (2019) A Network for Net Zero: Our Approach to Implementing Biodiversity Net Gain. Available: <https://www.ssen-transmission.co.uk/media/3723/our-approach-to-implementing-biodiversity-net-gain.pdf>

guidance. It would also detail measures to manage, control and monitor the potential effects of construction including noise, dust, waste, pollution and personnel / vehicular movements. Best practice pollution control measures, with reference to Guidance for Pollution Prevention (GPPs)¹⁰ and COSHH guidelines¹¹, would be included in the CEMP. Particular reference would be made to managing handling, storage and use of hazardous chemicals and fuels used during the construction process. A detailed spill response plan would be developed as part of the CEMP and fully-briefed to all site operatives. An Ecological Management Plan (EMP) would also be included as part of the CEMP, which will include relevant information on habitats and protected species local to the Proposed Development, requirements for pre-construction surveys and toolbox talks (TBTs), reference to relevant SPPs and information on licencing requirements and procedures. An Outline CEMP is provided in **Technical Appendix 3.6**.

- 8.7.6 Pre-construction surveys for protected species will be undertaken no more than 6 months in advance to identify any new ecological constraints and to ascertain the activity status of previously identified features within proximity of planned works.
- 8.7.7 Any micro-siting of infrastructure within the defined LOD will be based on a review of existing ecological data and the completion of pre-construction surveys, to take into consideration the potential for direct encroachment onto protected species features, sensitive habitats or GWDTEs, or indirect alteration of hydrological flows supporting sensitive habitats of GWDTEs. Any micro-siting will also take consideration of any buffer distances on protected features identified, as detailed within the SPPs (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**).
- 8.7.8 The typical Operational Corridor (OC) required within areas of commercial forestry for a 400 kV OHL is 90 m (i.e. 45 m either side of the centre line of the OHL). Where the OC passes through areas of semi-natural conifer woodland considered to be remnant Caledonian pinewood, the wayleave width has been reduced from 90 m to 50 m (i.e. 25 m either side of the centre line of the OHL) to minimise felling of this sensitive habitat. In addition, the wayleave has also been reduced from 90 m to 50 m along some sections of the OC where the Proposed Development passes through areas of ancient woodland. This has been based on the likely height of the woodland at maturity.
- 8.7.9 To ensure all reasonable precautions are taken to avoid negative effects on habitats, protected species and aquatic interests, a suitably qualified ECoW will be appointed prior to the commencement of construction to advise the Applicant and the Principal Contractor on all ecological matters. The ECoW will be required to be present onsite as appropriate during the construction phase and will carry out monitoring of works and briefings with regards to any ecological sensitivities to the relevant staff of the Principal Contractor and subcontractors.

8.8 Potential Effects

- 8.8.1 This section considers the potential impacts and associated effect significance of the construction, and operation of the Proposed Development based on the typical activities described in **Chapter 3: Project Description**.
- 8.8.2 The potential effects on ecological receptors which may arise from the Proposed Development relate principally to the construction phase, which includes the decommissioning and dismantling of the section of 132 kV Fort Augustus for Fort William OHL between the Loch Lundie Substation and the existing Fort Augustus Substation and the re-routing of the 132 kV Fort Augustus to Fort William OHL and the 132 kV Invergarry Tee OHL into the proposed Loch Lundie Substation. There are no anticipated effects on ecological receptors from the operational phase.

¹⁰ Guidance for Pollution Prevention (GPPs). NetRegs. Environmental guidance for your business in Northern Ireland and Scotland <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/>

¹¹ Control of Substances Hazardous to Health (COSHH) <https://www.hse.gov.uk/coshh/>

Construction Effects

8.8.3 Based on the consultation responses and known environmental sensitivities, this assessment considers the following potential effects:

- Effects on designated sites (Garry Falls SSSI);
- Habitat loss and fragmentation of sensitive habitats;
- Effects on GWDTEs;
- Disturbance and displacement of protected species; and
- The spread of non-native invasive species.

Sites of Nature Conservation

8.8.4 The Proposed Development LOD avoids Garry Falls SSSI by 30 m, the site is designated for its woodland habitats and rich bryophyte assemblage. No felling is proposed within 85 m of the SSSI, as such there is no predicted direct impacts as a result of the Proposed Development on this site. The woodland habitats for which the site is notified is upland mixed ash woodland on cliffs and block scree with a ground flora which includes species of base-rich soils such as woodruff and enchanter's nightshade. This woodland type is not found within the Study Area and as such the Proposed Development is not predicted to have any indirect impacts through fragmentation of habitats on the site.

Ancient Woodland Inventory (AWI) and Caledonian Pinewood Inventory (CPI)

8.8.5 Design mitigation has sought to minimise the areas of Ancient Woodland habitat that is traversed by the OHL where possible, however due to the extent of the AWI within the Study Area and the design requirements of the infrastructure related to the consented Coire Glas Pumped Storage Hydro Scheme, it is not possible to completely avoid loss of Ancient Woodland. The total direct loss of woodland for construction of the Proposed Development equates to 65.82 ha, this includes 4.98 ha of ancient woodland 2a (comprising 1.75 of commercial conifer plantation and 3.23 ha of native woodland) and 18.14 ha PAWS (comprising 17.28 ha of commercial conifer plantation and 0.86 of native woodland). The total loss of ancient woodland is 23.12 ha, accounting for 13 % of AWI within the Study Area. Proposed access tracks have sought to avoid areas of ancient woodland, but where it has not been possible to completely avoid (e.g. spurs to tower locations), tracks would be temporary, with soils and ground flora reinstated upon completion of construction. Ancient woodlands are habitats of National importance and any effects from direct habitat loss (i.e. felling for the OC or new access tracks) would be permanent and irreversible. Locations where AWI is affected are discussed in **Chapter 14: Forestry**, with individual areas quantified in the relevant Woodland Reports in **Technical Appendix 14.1**.

8.8.6 As with ancient woodland, the design mitigation has sought to minimise the areas of woodland identified on the Caledonian Pinewood Inventory (CPI), however given the constraints relating to the consented Coire Glas Pumped Storage Scheme, particularly the requirements for the location of the tunnel portal, it is not possible to completely avoid areas of CPI woodland. The initial 915 m of the proposed OHL from the proposed Coire Glas Switching Station location heading northeast toward the River Garry is located within Caledonian Pinewood Regeneration Zone, continuing a further 1.20 km northeast within the Caledonian Pinewood Buffer Zone, to a point approximately 125 m northeast of the River Garry. Felling of woodland within areas included on the CPI will be required to accommodate the Proposed Development, including 0.45 ha within Caledonian Pinewood and 3.24 ha woodland within the Caledonian Pinewood Buffer Zone. Most, but not all of, the woodland areas included on the CPI are also included on the AWI. **Figure 8.3a** shows the overlap between CPI and AWI woodland areas.

Habitats

- 8.8.7 Direct habitat loss would result from construction of proposed infrastructure including new access tracks, tower foundations and wayleave felling to create an OC for conductors. Much of this infrastructure would be permanent, however sections of temporary access track would be removed at the end of construction and habitats restored. Stone access tracks are anticipated to have a running width of approximately 4 m, with an overall track working corridor of approximately 6 m to allow for drainage and pollution prevention measures. The working areas around each tower location is anticipated to be 0.25 ha (i.e. 50 m x 50 m).
- 8.8.8 Habitats identified within the Study Area included those of Regional to Less than Local value. Irreplaceable habitats (those of ecological value that take an exceptionally long time or are technically very challenging to recreate) include blanket bog, wet modified bog (modified but considered capable of restoration), ancient woodland and areas Scots Pine within the Caledonian Pinewood Inventory. The route selection and alignment processes has sought to avoid these habitats where possible however there would be some direct habitat loss.
- 8.8.9 Priority and Sensitive habitats displayed in **Figure 8.3a – e** identifies the locations of Annex I, peatland and GWDTE habitats considered likely to have high sensitivity. Habitat loss in these habitats as a result of the Proposed Development is shown in **Table 8.7: Priority and Sensitive Habitat Loss**.
- 8.8.10 Using JNCC's Annex I habitat listings and descriptions, the following Annex I habitats have been identified within the Study Area:
- 4010 Northern Atlantic Wet Heaths;
 - 4030 European Dry Heaths;
 - 7130 Blanket Bog;
 - 91C0 Caledonian Forests; and
 - 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles.
- 8.8.11 GWDTE Habitats identified within the Study Area that are considered likely to have high groundwater dependency are considered habitats of Regional value and include:
- M6 *Carex echinata* – *Sphagnum fallax/denticulatum* mire; and
 - W4 *Betula pubescens* – *Molinia caerulea* wet woodland.
- 8.8.12 GWDTE Habitats identified within the Study Area that are considered likely to have low to moderate groundwater dependency are considered habitats of either Local or Less than Local value and include:
- M15 *Trichophorum germanicum* – *Erica tetralix* wet heath;
 - MG9 *Holcus lanatus* – *Deschampsia cespitosa* grassland; and
 - U6 *Juncus squarrosus* – *Festuca ovina* grassland.
- 8.8.13 Semi-natural broadleaved woodland within the Study Area is mostly included within the AWI, with the exception the area north of birch woodland north of Faichem and between the River Oich and Auchterawe.
- 8.8.14 The significance of effect on priority and sensitive habitats is assessed based on the type and extent of effect, the value of receptor and the magnitude of effect as detailed in Section 8.5 above.

Table 8.7: Priority and Sensitive Habitat Loss

Priority and Sensitive Habitats	Significance	Habitat Loss as a result of the Proposed Development (Ha)						Significance of Effect
		Wayleave felling	Tower installation	Temporary 132 kV Wood pole Diversion	Permanent New Access Tracks	Temporary New Access Tracks	Totals	
4010 Northern Atlantic Wet Heaths	Medium	0	3.00	0.02	0.16	1.69	4.87	Minor Adverse & Not Significant
4030 European Dry Heaths	Medium	0	0.50	0.06	0	0.21	0.77	Negligible & Not Significant
7130 Blanket Bog	Medium	0	0.25	0	0.21	0.11	0.57	Minor Adverse & Not Significant
91C0 Caledonian Forests	Medium	1.02*	0	0	0	0	1.02	Minor Adverse & Not Significant
91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i>	Medium	0.29	0	0	0	0	0.29	Minor Adverse & Not Significant
Semi-natural woodland included on AWI	Medium	21.62	0	0	0	1.50	23.12	Moderate Adverse & Significant
Woodland included in CPI	Medium	0.45**	0	0	0	0	0.45	Moderate Adverse & Significant
M6 <i>Carex echinata</i> – <i>Sphagnum fallax</i> / <i>denticulatum</i> mire	Local	0	0	0	0	0	0	Negligible & Not Significant
W4 <i>Betula pubescens</i> – <i>Molinia caerulea</i> wet woodland	Local	0	0	0	0	0	0	Negligible & Not Significant
Broadleaved woodland – semi-natural (not included in AWI)	Local	3.55	0	0	0	0	3.55	Minor Adverse & Not Significant
Wet Modified Bog	Local	0	0.50	0	0.37	0.24	1.11	Minor Adverse & Not Significant

*This Annex I habitat overlaps with both Semi-natural woodland included on AWI & Woodland included in CPI

**0.24 ha overlaps with Semi-natural woodland included on AWI

8.8.15 NNIS are present within the Study Area and without appropriate mitigation construction has the potential to spread these plant species, causing detrimental effects to biodiversity within and out with the Study Area.

Protected Species

8.8.16 Otter, badger, red squirrel, pine marten and bat species have been identified as ecological receptors present within the Study Area. All are receptors of Regional importance as individuals and their places of shelter are legally protected. Potential impacts to protected species could include the following:

- destruction of red squirrel drey and pine marten den during felling to accommodate the OHL wayleave;
- disturbance to individual animals commuting, foraging or resting in proximity to construction activity (noise, lighting, vehicle movements); and
- mortality or injury to individual animals.

8.8.17 The Applicant's SPPs for construction works where protected species may be present (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) are based on a hierarchy of mitigation, where there is a general presumption against works being carried out which could disturb these species in their place of shelter.

8.8.18 Avoidance is the preferred option for active squirrel dreys identified within 50 m of works during the breeding season (February to September inclusive). Out with the breeding season, the protection zone is reduced to 5 m. One drey was located within the LOD for a proposed new access track in Glengarry Forest. Implementation of the micrositing allowance could avoid any disturbance to this drey if it is found to be active. Squirrels can rapidly build new dreys and often utilise several different dreys within a territory. Additional pre-construction surveys would be undertaken in accordance with the Applicant's SPP to establish if the drey is active or if any new dreys have been built within disturbance distance to the Proposed Development. With the implementation of embedded mitigation including the Applicant's GEMPs and SPPs which the Principal Contractor will be contractually obliged to adhere to and implement, there are no likely predicted effects on red squirrel.

8.8.19 Avoidance is the preferred option for active otter holts and couches identified within 30 m of works or 200 m for confirmed breeding holts. The proposed alignment of the 400 kV OHL has already taken into account the presence of the potential couch along the Allt Ruighe Bhlair watercourse within Glengarry Forest and has sought to ensure that the minimum buffer distances of 30 m from couches is achieved. Pre-construction surveys would be undertaken in accordance with the Applicant's SPP to establish the use of the couch and determine if the buffer around the couch is still required. With the implementation of embedded mitigation including the Applicant's GEMPs and SPPs, there are no likely predicted effects on otter.

8.8.20 Avoidance is the preferred option for active pine marten dens identified within 100 m of planned works during the breeding season (March to June inclusive). Two possible dens were identified within the Study Area, one is within 100 m of the works required as part of the Proposed Development. Pre-construction surveys would be undertaken in accordance with the Applicant's SPP to establish the use of the den and determine if the 100 m buffer during the breeding season will be required. If the den is active, the micrositing allowance may be implemented to avoid impacts to pine marten using the den. With the implementation of embedded mitigation, there are no likely predicted effects on pine marten.

8.8.21 Avoidance is the preferred option for features with the potential to support roosting bat species within 30 m of planned works. No potential roost features were identified within 30 m of proposed works. Two trees with potential roost features (PRFs) were identified within the Study Area, both are located out with the LOD as such there is no likely predicted effects on bats.

8.8.22 No shelters supporting badger were identified within the Study Area, therefore there are no likely predicted effects on this species.

Operation Effects

8.8.23 Predicted effects are anticipated to arise largely during the construction phase of the Proposed Development however there will be a requirement to maintain an operational wayleave for the OHL which could give rise to further impacts on woodland habitats for example through the requirement to undertake clearance of naturally regenerating trees within proximity to the conductors.

Dismantling of Existing OHL and Diversions

8.8.24 Following commissioning of the Proposed Development, the existing Fort Augustus to Fort William 132 kV OHL between the proposed Loch Lundie substation and the existing Fort Augustus Substation would be dismantled and removed. In addition, existing towers will be removed where the 132 kV Fort Augustus to Fort William 132 kV OHL and Invergarry Tee OHL 132 kV are re-routed into the proposed Loch Lundie substation. No new infrastructure is required for the dismantling and removal of the existing OHL, and so potential impacts on habitats and protected species are much reduced.

8.8.25 Re-routing of the 132 kV Fort Augustus to Fort William OHL and the 132 kV Invergarry Tee OHL into the proposed new Loch Lundie substation would include the installation of 8 temporary Trident wood poles, 4 new permanent steel lattice towers, 3 new permanent Trident steel towers, installation of associated access tracks and the dismantling of 1.3 km of existing OHL and associated towers. Temporary wood poles would be removed following completion of the re-routing works. Habitats will be restored following the dismantling of the sections of existing OHL, removal of temporary wood poles and associated temporary access tracks. Restoration will be subject to the Site Restoration Plan, included in **Technical Appendix 3.4**. Where permanent steel lattice towers or Trident poles are proposed, the design of the diversion has sought to avoid sensitive habitats where possible by locating towers on drier bracken or dry heath knolls, minimising permanent habitat loss to peatland habitats wherever possible.

8.8.26 A pre-construction survey would be undertaken to update the baseline surveys and identify any protected species shelters within proximity to the re-routing and dismantling works, with the same mitigation measures described in Section 8.7 above being implemented, including the provision of an ECoW to oversee the works and adherence to the Applicant's GEMPs, SPPs (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) and site-specific CEMP. An outline CEMP is provided in **Technical Appendix 3.6**.

Cumulative Effects

8.8.27 Three proposed EIA projects/developments were identified in proximity to the Proposed Development where there is potential for cumulative effects

- Loch Lundie Substation (Associated Works to the Proposed Development, pre-application);
- Coire Glas Switching Station (Associated Works to the Proposed Development, pre-application);
- Skye Reinforcement Project (In Planning);
- Bhlaraidh Extension Wind Farm Grid Connection (In Planning); and
- Coire Glas Pumped Storage Hydro Scheme (Consented).

8.8.28 The Loch Lundie Substation and Coire Glas Switching Station are at the pre-application stage but are closely linked to the Proposed Development and are being developed by the Applicant, consequently it is possible to consider the potential cumulative effects associated with these pre-application projects.

- 8.8.29 The Loch Lundie Substation is required for the construction of a new 400 kV substation in association with the Coire Glas Pumped Storage Grid Connection project. It is anticipated that approximately 14 ha of permanent and temporary habitat loss may be required for construction of the substation. Direct habitat loss is within an area of commercial conifer woodland, with smaller areas of wet modified bog and wet dwarf shrub heath present within rides between forestry coupes. The areas habitat loss to wet modified bog and wet dwarf shrub heath is anticipated to be relatively small 2 ha and 0.9 ha respectively.
- 8.8.30 The Coire Glas Switching Station would provide the point of connection between the consented Coire Glas Pumped Storage Hydro Scheme and the electricity transmission system. It is anticipated that approximately 19 ha of permanent and temporary habitat loss may be required for construction of the switching station. Direct habitat loss is within an area of coniferous woodland, approximately 10 ha of commercial plantation and 6 ha of semi-natural conifer woodland, considered to be Caledonian Forests Annex I habitat. The proposed Coire Glas Switching Station is located entirely within an area of woodland included on the AWI of semi-natural origin and CPI Regeneration Zone.
- 8.8.31 The proposed Skye Reinforcement Project is a new transmission extending over a distance of 160 km between Ardmore Substation on Skye and Fort Augustus Substation. The route of the Skye Reinforcement Project would converge as an OHL with the Proposed Development near Munerigie Wood, and then travel parallel with the Proposed Development toward Inchnacardoch Forest as an underground cable to Fort Augustus Substation. The proposed route through Inchnacardoch Forest takes a more northerly route through the woodland than the Proposed Development, following the route of the existing wood pole OHL, prior to connecting into Fort Augustus Substation. There are overlaps with Study Areas of both the Proposed Development and the Skye Reinforcement Project. Direct habitat loss to blanket bog and wet dwarf shrub heath are anticipated within the section of the project which runs parallel to the Proposed Development. No significant effects were identified for blanket bog, wet modified bog or wet dwarf shrub heath habitats; however these habitats would be subject to reinstatement and restoration as prescribed in a Site-specific Restoration Plan, an outline of this plan is included in **Technical Appendix 3.4**.
- 8.8.32 The Study Areas for the proposed Bhlaraidh Extension Wind Farm Grid Connection Study Area and the Proposed Development overlap slightly at the point of connection into Fort Augustus Substation. The project identifies potential impacts to PAWS woodland, wet heath and blanket bog habitats through the requirement for an operational wayleave and project infrastructure. These impacts were considered minor and after implementation of mitigation were considered negligible.
- 8.8.33 Coire Glas Pumped Storage Hydro Scheme is predicted to result in direct habitat loss to blanket bog, wet heath, dry heath and Caledonian Forest Annex I habitat. These impacts were considered minor and after implementation of mitigation were considered negligible.
- 8.8.34 The proposed Loch Lundie Substation, Coire Glas Switching Station, Skye Reinforcement Project and Bhlaraidh Extension Wind Farm Grid Connection would all be developed by the Applicant who is committed to incorporating Biodiversity Net Gain (BNG) into their proposals, which would include associated Habitat Management Plans (HMPs) or Long-Term Management Plans (LTMPs) for each project. With only minor habitat losses, BNG commitments and proposals, and considering wider policy and legislative frameworks and requirements such as on woodland removal and compensatory planting, it is considered unlikely any significant adverse cumulative effects would arise from these projects in conjunction with the Proposed Development.

8.9 Mitigation

Mitigation During Construction

- 8.9.1 Several mitigation measures and plans will be put into place before, and during construction of the Proposed Development as detailed in **Section 8.7 Embedded Mitigation**.

8.9.2 A Site Restoration Plan (see **Technical Appendix 3.4**) is proposed as part of the CEMP (see **Technical Appendix 3.3**) which will detail how habitats around tower locations and temporary access tracks will be excavated, restored and managed to reduce potential impacts to sensitive habitats. The plan will also include details on management of woodland and scrub habitats regenerating within the operational wayleave. The proposed site restoration plan will include measures to minimise losses to biodiversity and include habitat creation and enhancement such as native upland woodland and scrub planting, reseeding where required in unplanted areas and deer fencing to protect these measures from herbivore damage.

8.9.3 During construction activities, surface water flows will be captured through a series of cut off drains to prevent water entering excavations or eroding exposed surfaces. If dewatering is required, pumped discharges would be passed through silt / sediment control measures. Further details on safeguarding the water environment from construction related silt run-off is detailed in **Chapter 10: Geology, Soils and Water**.

8.9.4 Additional mitigation in relation to Designated Sites and Priority / Sensitive Habitats includes measures to reduce potential effects further.

Mitigation Specific to Designated Sites

8.9.5 As advised within the Scoping Response from NatureScot, the boundary of the SSSI will be clearly demarcated on the ground to prevent any accidental vehicle access or storage of materials during the construction phase. All site staff will be briefed on the sensitivity of the site and the demarcation by the ECoW during toolbox talks.

Mitigation Specific to Sensitive Habitats

8.9.6 The felling wayleave for the OC for the OHL and new access tracks will be reduced through sections of semi-natural woodland and Caledonian Forest Annex I habitat to minimise habitat loss and microsite where possible within the LOD where a combination of factors (e.g. topography, tower height, tree species and height) may reduce the area of semi-natural woodland habitats defined as being within the OC. For example, the extent of tree clearance may be reduced where it can be demonstrated through further survey that crown reduction only can be accommodated. In addition, prior to construction large veteran Scots pine trees will be surveyed within the LOD and where possible the OHL will be microsite further to avoid these veteran trees.

8.9.7 The routing and alignment selection process has allowed avoidance of GWDTE habitat of High sensitivity and has sought to avoid areas of blanket bog, wet modified bog and wet heath as far as possible. Given the widespread nature of wet dwarf shrub heath (a GWDTE habitat of low to moderate sensitivity) and blanket bog habitat, it is not possible to microsite to avoid these habitats completely, however peat depth data will be used to microsite tower locations and new tracks (both temporary and permanent) within the LOD to avoid deeper areas of peat and minimise excavated peat volumes. In addition, potential adverse effects will be minimised by:

- using temporary Trackway and/or use of specialised low ground bearing pressure vehicles to prevent damage to surface vegetation, avoid compaction of underlying peat and maintain hydrological pathways;
- use of floating track construction methods on areas of deeper peat, where practicable;
- the extent of excavations within these habitats will be kept to a minimum during construction activities and reinstatement would be undertaken in line with the proposed restoration principles set out in the CEMP, ensuring that vegetation is initially stripped, suitably stored and then relaced on the surface to recreate the former habitat as far as possible; and
- the ECoW will monitor any excavations within proximity to these habitats to ensure that hydrological pathways and water quality is sustained during all phases of the Proposed Development

- 8.9.8 During construction of the access tracks through areas of blanket bog or wet modified bog, the ECoW will supervise the stripping, handling and storage of vegetation and peat, ensuring all works are undertaken in line with measures detailed in the Peat Management Plan (PMP) (see **Technical Appendix 10.1**) to protect the integrity of the peat and associated vegetation. Stripped turves will be stored in a suitable area adjacent to the temporary construction compound, out with the remaining areas of blanket bog.
- 8.9.9 Pre-construction surveys will include searches for the Nationally Scarce Green Shield-moss in suitable habitat within woodland habitats by a suitably experienced bryophyte specialist within 30 m of any temporary or permanent infrastructure. If the moss is identified during surveys, appropriate mitigation measures will be implemented and monitored by the ECoW, in consultation with a suitably experienced bryophyte specialist as required.
- 8.9.10 As part of the CEMP, an invasive species management plan will be developed prior to works commencing to prevent the spread of NNIS within and out with the Site. An outline CEMP is provided in **Technical Appendix 3.6**.

Measures Specific to Protected Species

- 8.9.11 The following measures will further minimise the potential effects on protected species:
- prior to construction commencing, a professional ECoW would undertake a pre-construction survey within 250 m of construction activity to ascertain the presence and level of activity of all protected mammal species in the area;
 - these pre-construction surveys will include assessment of whether any shelters (e.g. squirrel dreys / pine marten dens are active and in use);
 - ramps or gently sloping faces would be employed within excavations to allow safe egress for any mammal species that may become trapped;
 - the workforce would be briefed (prior to commencing work) by TBTs on the protected species present in the general area, the legislative context and potential signs of activity; and
 - in the event of any significant signs of mammal activity being found additional to those identified during the course of surveys as described above, the ECoW will advise on how works should progress in line with measures detailed in the species specific SPP (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**), and if necessary, consult with NatureScot.

Mitigation During Operation

- 8.9.12 No additional mitigation is proposed for the Operational Phase. Given that the Proposed Development would result in the permanent loss of woodland, the Applicant is committed to making arrangements to plant off-site the equivalent area of woodland as Compensatory Planting, as described in **Chapter 14: Forestry**.

8.10 Residual Effects

- 8.10.1 This section considers the predicted residual effects and associated effect significance of the construction and operation of the Proposed Development, following the implementation of the mitigation measures proposed in Section 8.7 and 8.9.

Ancient Woodland (AWI)

- 8.10.2 Habitat loss to Ancient Woodland would result from felling to create the OC and for new access tracks. The total loss of Ancient Woodland would be 23.12 ha (13.5 % of the total habitat type present within the Study Area). The OC will also fragment the remaining areas of AWI within the Study Area. Ancient woodland is an irreplaceable habitat, with any loss being permanent. Design and mitigation have sought to reduce the loss

where possible through route design and minimising felling requirements where possible, despite this, residual effects on ancient woodland remain **Moderate Adverse** and **Significant**.

91C0 Caledonian Forest and Caledonian Pinewood Inventory (CPI)

- 8.10.3 Caledonian Forest and stands included within the Caledonian Pinewood Inventory overlap and most areas are also included within the AWI. The Caledonian Forest habitat is being managed within Glengarry Forest to restore and expand following historical felling. Many of the stands have been underplanted with additional Scots pine, with birch common within the Caledonian Pinewood Regeneration Zone. Habitat loss resulting from felling to create the OC would result in the loss of 1.02 ha of 91C0 Caledonian Forest, which includes 0.45 ha of woodland included in the CPI (6.4 % of the total habitat type present within the Study Area). Habitat loss is restricted to the eastern extent of woodland included on the CPI within Glengarry Forest, therefore fragmentation of existing woodland is considered unlikely. Although the direct habitat loss to this habitat as a result of the Proposed Development is low in magnitude, this habitat is irreplaceable, with any loss being considered permanent. Design and mitigation have sought to reduce the loss where possible through route design and minimising felling requirements where possible, despite this, residual effects on Caledonian Forest and CPI remain **Moderate Adverse** and **Significant**.

4010 Northern Atlantic Wet Heaths

- 8.10.4 Habitat loss in Northern Atlantic Wet Heaths would result from the installation of 11 towers and sections of temporary and permanent access tracks between Munerigie Wood and Auchterawe. The total loss of wet heath would be 4.62 ha (3.2% of the total habitat type present within the Study Area). Floating access track construction would be used in areas of blanket bog, where practicable, to minimise excavation of peat, maintain hydrological pathways and avoid compaction to peat. Only 0.16 ha of access track within the habitat is proposed to be permanent, between Munerigie Wood and Drynachan Wood, with the remaining areas of habitat loss for access track construction (1.64 ha) being reinstated upon completion of construction. Residual effects on wet dwarf shrub heath are considered to be **Minor Adverse** and **Not Significant**.

7130 Blanket Bog and Wet Modified Bog

- 8.10.5 Loss of blanket bog and wet modified bog would be limited to 0.57 ha and 1.11 ha (1.6 % and 3 % of the total habitat type present within the Study Area respectively). Habitat loss in blanket bog would result due to the installation of one tower and short sections of temporary and permanent access tracks between Munerigie Wood and Drynachan Wood and a short section of temporary track on the northern edge of Drynachan Wood. The majority of larger expanses of blanket bog have been avoided within the Study Area. Habitat loss in wet modified bog would result from the installation of two towers and short sections of temporary and permanent track between Munerigie and Drynachan Wood and within Drynachan Wood. Floated access track construction would be used in areas of blanket bog, where practicable, to minimise excavation of peat, maintain hydrological pathways and avoid compaction to peat. Impacts arising from tower installation could be further minimised by micrositing within the LOD to avoid areas of blanket bog and deeper peat. Residual effects on blanket bog and wet modified bog are considered to be **Minor Adverse** and **Not Significant**.

Broadleaved Woodland – Semi-Natural

- 8.10.6 Habitat loss to semi-natural broadleaved woodland (not included within AWI) would result from felling to create the OC. The total area of habitat loss would be 3.55 ha (8.7 % of the total habitat type present within the Study Area). Micrositing of the OC within the LOD would be utilised to reduce the felling requirements within this habitat where practicable. Residual effects on semi-natural broadleaved woodland are considered to be **Minor Adverse** and **Not Significant**.

91A0 Old Sessile Oak Woods with *Ilex* and *Blechnum* in the British Isles

8.10.7 Habitat loss to 91A0 Old Sessile Oak Woods with *Ilex* and *Blechnum* in the British Isles would result from felling to create the OC. This habitat is restricted in extent within the Study Area to the semi-natural woodland along the banks of the River Garry. The total area of habitat loss would be 0.29 ha (11 % of the total habitat type present within the Study Area). Micrositing of the OC within the LOD would be utilised to reduce allow for veteran oak trees along the riverbanks to be avoided. Residual effects on Old Sessile Oak Woods with *Ilex* and *Blechnum* in the British Isles are considered to be **Minor Adverse** and **Not Significant**.

8.11 Summary and Conclusions

8.11.1 Habitats recorded within the Study Area range from Less than Local to Regional importance. Small permanent habitat loss to four Annex I habitats - 91C0 Caledonian Forests, 4010 Northern Atlantic Wet Heaths; 7130 Blanket Bog and 91A0 Old Sessile Oak Woods with *Ilex* and *Blechnum* in the British Isles – and Ancient Woodland habitat will result from wayleave felling, construction of new access tracks and installation of steel lattice towers. In addition, there will be small permanent habitat loss to wet modified bog habitats. Predicted effects of the Proposed Development on Ancient Woodland and Caledonian Forests are considered to have a **Moderate Adverse** and **Significant** effect. Predicted effects on other habitats are considered **Not Significant**.

8.11.2 Otter, badger, red squirrel, pine marten and potential roost features for bats were identified within the Study Area. Embedded mitigation measures including the micrositing allowance within the LOD, the implementation of a site-specific CEMP used in conjunction with the Applicant's GEMPs and SPPs (see **Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)**) and supervised by a suitably experienced ECoW to undertake pre-construction surveys and oversee construction works will result in no predicted significant effects on protected species.

8.11.3 Cumulative effects from other relevant proposals within proximity to the Proposed Development have been considered and are not anticipated to result in any additional Significant effects on ecological receptors other than those already identified.

8.11.4 Decommissioning of the sections of redundant OHL will be undertaken upon completion of construction and will be subject to the same environmental mitigation measures for the construction of the new OHL. No additional effects are predicted as a result of the re-routing and dismantling of sections of the existing 132 kV OHLs associated with the Proposed Development.